HEALTH SCIENCE CAREER CLUSTER DESIGN
Health Science Pathway – CIP Code 51.9999

Approved Pathway:

1) Includes minimum of three secondary-level credits.
2) Includes a work-based element.
3) Consists of a sequence: Introductory-level, Technical-level, and Application-level courses.
4) Supporting documentation includes Articulation Agreement(s), Certification, Program Improvement Plan, and a Program of Study.
5) Technical-level and Application-level courses receive .5 state-weighted funding in an approved CTE pathway.

INTRODUCTORY LEVEL

Health Science IA	14000	.5 credit	OR	Health Science IB	14001	1 credit
Biology	03051	1 credit		Chemistry	03101	1 credit

TECHNICAL LEVEL

General:

*Human Body Systems	14102	1 credit	OR	*Anatomy & Physiology	03053	1 credit
*Health Science II	14002	1 credit		AP Biology	03056	1 credit
Nutrition & Wellness	08057	.5 credit				
Medical Terminology A	14154	.5 credit	OR	Medical Terminology B	36154	1 credit
Health Information (HIT)	14157	1 credit				
Special Health Science Topics A	14254	.5 credit		Special Health Science Topics B	36254	1 credit

Sports Care & Rehabilitation:

Physical Therapy	14060	.5 credit	**Care of Athletes**	14062	.5 credit
Sports Medicine I	14072	1 credit			

Medical:

Emer. Medical Technology A	14055	.5 credit	OR	Emer. Med. Technology B	36055	1 credit
Medical Imaging A	14103	.5 credit	OR	Medical Imaging B	14149	1 credit
Medical Interventions	14105	1 credit		Prin. Of Biomed Science	14251	1 credit
Biotechnology I A	14252	.5 credit	OR	Biotechnology I B	36252	1 credit
Pharmacology	14253	1 credit				

Health Care:

Nursing I	14051	.5 credit	**First AID/CPR/EMR**	44050	.5 credit
Home Health Care	14053	.5 credit	**EMT**	44060	1 credit

APPLICATION LEVEL

Nursing II	14052	.5 credit		**Sports Medicine II**	14073	1 credit
Biomedical Innovation	14255	1 credit		**Phlebotomy Technician**	14104	.5 credit
Biotechnology II	14256	1 credit		**Certified Nursing Assistant**	14997	.5 credit
Health Science III	36991	1 credit		Proj. Mgmt & Resource Sched.	21205	1 credit
Health Science IV (Shadow/Work)	36992	1 credit		**Certified Medication Aide**	36156	.5 credit
Health Sci. V (Shadow/Work)	36993	2 credit		**Home Health Aide**	36053	.5 credit
Forensic Science	44224	.5 credit	OR	Forensic Science Comp.	44225	1 credit

*Select one for pathway approval

Boldfaced courses may require specialized teacher certification and/or offer professional certification.

Kansas Health Science Education

Secondary Health Science Competency Profile
CIP _____ Code: _____ 51.9999 _____

Rating Scale:

        3 Skilled- Works Independently
        2 Limited Skills- Requires Assistance 1
        Skill Undeveloped
        0 No exposure- No instruction or training

Teacher: School:
Enrolled Date: Completion Date: Graduation Date:
Student Signature   Teacher Signature

_____   _____

Directions: The following competencies are required for full approval of a course in a Health Science Education Program. Check the appropriate number to indicate the level of competency reached for student evaluation.

<u>Cluster Competencies</u>

LEADERSHIP SKILLS	3	2	1	0
1.1 Collegiality				
1.11 Display courtesy, tactfulness, and patience				
1.12 Demonstrate elements of American and international etiquette				
1.13 Specify and cultivate elements of a desired professional image				
1.14 Identify behaviors that lead to promotion in the modern workplace				
1.15 Identify roles and responsibilities of a leader in relation to one's own aptitudes as a leader of follower				
1.2 Trust and Confidence				
1.21 Control emotions under demands, time, pressure				
1.22 Select techniques for managing stress and maintaining balance among several roles				
1.3 Honest, Open Communication				
1.31 Use the following communication techniques to achieve personal and professional goals: active listening, body language/nonverbal communication, correct verbal expressions, eye contact, reflection of feelings, silence when appropriate, and prepared speaking				
1.32 Ask appropriate questions to clarify another's communication				
1.33 Value diversity, practice tolerances and acceptance, and work cooperatively toward a common goal				
1.4 Tangible Support				
1.41 Apply one or more problem-solving processes to a given situation's)				
1.5 Reaching Out				
1.51 Identify leadership styles (authoritarian, democratic, laissez faire, and participatory styles.)				
1.6 High Expectations				
1.61 Establish and examine personal short-and long-term goals, including resources needed to reach these goals.				
1.7 Experimentation				
1.71 Determine what leadership styles are appropriate for given situations				
1.8 Involvement in Decision Making				

1.81	Accept responsibilities for personal decisions and actions				
1.82	Define goals, identify priorities, and establish objectives				
1.83	Modify decisions as changing circumstances or data dictate				
1.9	**Protection of What's Important**				
1.91	Display appropriate image and dress				
1.92	Understand legal requirements and consequences				
1.93	Respect other's rights and beliefs				
1.10	**Appreciation and Recognition**				
1.101	Recognize and celebrate the accomplishment of others				
1.102	Recognize and reward those who help and contribute				
CAREER DEVELOPMENT SKILLS					
2.1	**Listening Skills**				
2.11	Follow oral instruction: Listen for and identify key words, listen for word that identify a procedure, listen for steps or actions to be performed				
2.2	**Human Relation Skills**				
2.21	Perform a self-assessment: Personal goals, needs/wants, interests/talents				
2.22	Demonstrate interpersonal skills: Tact and diplomacy, respect for others, respect for diversity, recognition of other's strengths, positive assertiveness, positive attitude				
2.3	**Decision Making/Problem Solving**				
2.31	Describe the factors that impact on decision making: Needs and wants, values, goals, standards				
2.32	Distinguish between types of decisions: economic				
2.33	Utilize problem solving skills: Identify the problem for resolution, define critical issues, analyze causes of a problem, utilize research and assessment skills, implement an action plan				
2.34	Identify common tasks that require employees to use problem-solving skills				
2.35	Guide individuals through the process of recognizing concerns and making informed decisions				
2.36	Solve problems using critical thinking skills (analyze, synthesize, and evaluate) independently and in teams				
2.37	Solve problems using creativity and innovation				
2.4	**Teamwork**				
2.41	Participate in team tasks: plan for action				
2.42	Build group consensus: Propose alternative plans for action, respond positively to ideas and suggestions, demonstrate conflict resolution skills, express disagreement diplomatically				
2.43	Analyze situations and behaviors that affect conflict management				
2.44	Determine best options/outcomes for conflict resolution using critical thinking skills				
2.45	Identify with others' feelings, needs, and concerns				
2.46	Implement stress management techniques				
2.5	**Resource Management**				
2.51	Determine cost, time and resources needed to complete a task within an industry or occupation				
2.52	Explain the relationship between setting goals and managing money				
2.6	**Time Management**				
2.61	Set priorities or the order in which several tasks will be accomplished.				
2.62	Identify and control personal "time wasters"				
2.63	Develop strategies to overcome procrastination and meet deadlines				
2.64	Estimate the time required to perform activities needed to accomplish a specific task				
3.1	**Academic**				
3.11	Use a knowledge of human structure and function to conduct health care role				
3.12	Use a knowledge of diseases and disorders to conduct health care role				
3.13	Describe the basic structures and functions of cells, tissues, organs, and systems as they relate to homeostasis				
3.14	Compare relationships among cells, tissues, organs, and systems				
3.15	Explain body planes, directional terms, quadrants, and cavities				
3.16	Analyze the interdependence of the body systems as they relate to wellness, disease, disorders, therapies, and care rehabilitation				
3.2	**Mathematics**				

		3	2	1	0
3.21	Identify whole numbers, decimals, and fractions				
3.22	Demonstrate knowledge of basic arithmetic operations such as addition, subtraction, multiplication, and division				
3.23	Demonstrate use of relational expressions such as equal to, not equal, greater than, less than, etc.				
3.24	Apply data and measurements to solve a problem				
3.25	Analyze Mathematical problem statements for missing and/or irrelevant data				
3.26	Construct charts/tables/graphs from functions and data				
3.27	Analyze data when interpreting operational documents				
4.1	**Communication**				
4.11	Use oral and written communication skills in creating, expressing and interpreting information and ideas including technical terminology and information				
4.12	Model behaviors that demonstrate active listening				
4.13	Adapt language for audience, purpose, and situation. (i.e. diction/structure, style)				
4.14	Compose focused copy for a variety of written documents such as agendas, audio-visuals, bibliographies, drafts, forms/documents, notes, oral presentations, reports, and technical terminology				
4.15	Evaluate oral and written information for accuracy, adequacy/sufficiency, appropriateness, clarity, conclusions/solutions, fact/opinion, propaganda, relevancy, validity, and relationship of ideas				
4.16	Present formal and informal speeches including discussion, information requests, interpretation, and persuasive arguments				
4.17	Write realistic performance goals, objectives and action plans				
5.1	**Information Technology**				
5.11	Use information technology tools specific to the career cluster to access, manage, integrate, and create information				
	<u>Total:</u>				

03051/53051 – Biology (1 Credit)

Academics:		3	2	1	0
1.1	**State Standards**				
1.11	Meet all state academic standards for biology				
2.1	**Health Science Related**				
2.11	Identify content, skills and technology related to the health science field				
2.12	Apply mathematical computations related to common health industry procedures				
2.13	Apply mathematical principles to conversion equations commonly used in health related fields				
2.14	Apply mathematical principles involving temperature, weights, and measures commonly used in health related fields				
2.15	Analyze diagrams, charts, graphs and tables to interpret results commonly found in health related fields				
2.16	Recognize, organize, write and compile technical information and summaries that relate to health science				
	<u>Total:</u>				

03053 – Anatomy and Physiology (1 Credit)

Academics: *After meeting all state standards for A&P, the following competencies should be covered.*		3	2	1	0
1.1	**Human Structure and Function**				
1.11	Describe the basic structures and functions of cells, tissues, organs, and systems as they relate to homeostasis				
1.12	Compare relationships among cells, tissue, organs, and systems				
1.13	Explain body planes, directional terms, quadrants, and cavities				
1.14	Analyze the interdependence of the body systems as they relate to wellness, disease, disorders, therapies, and care rehabilitation				
2.1	**Disease and Disorders**				
2.11	Compare selected diseases/disorders including respective classification(s), causes, diagnoses, therapies, and care/rehabilitation to include biotechnological applications				
2.12	Analyze methods to control the spread of pathogenic microorganisms				
2.13	Analyze body system changes in light of diseases, disorders, and wellness				
Communications:					

3.1	Written Communication Skills				
3.11	Report relevant information in order of occurrence				
3.12	Distinguish between subjective and objective information and demonstrate each				
3.13	Recognize, organize, write and compile technical information and summaries				
3.14	Use medical terminology to communicate information, data and observations				
Systems:					
4.1	Health Care Delivery System				
4.11	Identify methods to assess vital signs				
Employability Skills:					
5.1	Career Exploration				
5.11	Identify a variety of careers that use anatomy and physiology knowledge and how it relates to health careers				
Ethics:					
6.1	Ethical Practice				
6.11	Explain the importance of confidentiality in health care				
Safety Practices:					
7.1	Personal safety				
7.11	Use personal protective equipment as appropriate to the environment				
7.2	Environmental Safety				
7.21	Modify the environment to create safe working conditions. Evaluate and modify the environment to create and maintain safe working conditions				
7.22	Prevent accidents by using proper safety techniques for the prevention of accidents				
8.1	Health Science Related				
8.11	Identify content, skills and technology related to the health science field				
8.12	Apply mathematical computations related to common health industry procedures				
8.13	Apply mathematical principles to conversion equations commonly used in health related fields				
8.14	Apply mathematical principles involving temperature, weights, and measures commonly used in health related fields				
8.15	Analyze diagrams, charts, graphs and tables to interpret results commonly found in health related fields				
8.16	Recognize, organize, write and compile technical information and summaries that relate to health science				
	Total:				

03056 – AP Biology (1 Credit)

Academics:		3	2	1	0
1.1	State Standards				
1.11	Meet all state academic standards for biology				
2.1	Health Science Related				
2.11	Identify content, skills and technology related to the health science field				
2.12	Apply mathematical computations related to common health industry procedures				
2.13	Apply mathematical principles to conversion equations commonly used in health related fields				
2.14	Apply mathematical principles involving temperature, weights, and measures commonly used in health related fields				
2.15	Analyze diagrams, charts, graphs and tables to interpret results commonly found in health related fields				
2.16	Recognize, organize, write and compile technical information and summaries that relate to health science				
	Total:				

03101 – Chemistry (1 Credit)

Academics:		3	2	1	0
1.1	State Standards				
1.11	Meet all state academic standards for chemistry				

2.1	Health Science Related					
2.11	Identify content, skills and technology related to the health science field					
2.12	Apply mathematical computations related to common health industry procedures					
2.13	Apply mathematical principles to conversion equations commonly used in health related fields					
2.14	Apply mathematical principles involving temperature, weights, and measures commonly used in health related fields					
2.15	Analyze diagrams, charts, graphs and tables to interpret results commonly found in health related fields					
2.16	Recognize, organize, write and compile technical information and summaries that relate to health science					
3.1	Chemistry Performance Expectations					
3.11	Use the periodic table as a model to predict the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms.					
3.12	Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties.					
3.13	Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles.					
3.14	Develop a model to illustrate that the release or absorption of energy from a chemical reaction system depends upon the changes in total bond energy.					
3.15	Apply scientific principles and evidence to provide an explanation about the effects of changing the temperature or concentration of the reacting particles on the rate at which a reaction occurs.					
3.16	Refine the design of a chemical system by specifying a change in conditions that would produce increased amounts of products at equilibrium.*					
3.17	Use mathematical representations to support the claim that atoms, and therefore mass, are conserved during a chemical reaction.					
3.18	Develop models to illustrate the changes in the composition of the nucleus of the atom and the energy released during the processes of fission, fusion, and radioactive decay.					
3.19	Create a computational model to calculate the change in the energy of one component in a system when the change in energy of the other component(s) and energy flows in and out of the system are known.					
3.20	Design, build, and refine a device that works within given constraints to convert one form of energy into another form of energy.					
3.21	Plan and conduct an investigation to provide evidence that the transfer of thermal energy when two components of different temperature are combined within a closed system results in a more uniform energy distribution among the components in the system (second law of thermodynamics).					
3.22	Evaluate the validity and reliability of claims in published materials.					
	Total:					

08057 – Nutrition & Wellness A (.5 Credit)

		3	2	1	0
See Family & Community Services Pathway 19.0799					
	http://www.ksde.org/Portals/0/CSAS/Content%20Area%20(F-L)/Family%20and%20Consumer%20Sciences/Human%20Services/Family%20and%20Community%20Services%20Pathway/15-16%20Fam%20Comm%20Servs%20Design%207-14.pdf				
1.1	**Academic Foundations**				
1.11	Use information to locate, comprehend, make inferences, and draw conclusions				
1.12	Adjust original rational number estimate of a real-world problem based on additional information (a frame of reference)				
1.13	Generate and/or solve multi-step real-world problems with real numbers and mathematical concepts				
1.14	Research, apply, and evaluate information to accomplish tasks				
1.15	Apply fundamental knowledge of economics to enhance learner achievement				
2.1	**Communications**				
2.11	Use appropriate communication strategies for the most effective outcome				
2.12	Demonstrate the use of verbal, listening, and writing skills to communicate clearly				
3.1	**Problem Solving, Dilemma Solving, and Critical Thinking**				
3.11	Identify common tasks that require employers to use problem-solving skills				
3.12	Use problem-solving and critical thinking skills to improve a situation or process				
3.13	Create ideas, proposals, and solutions to a problem				
4.1	**Information Technology Applications**				
4.11	Use information technology tools to manage and perform work (school) responsibilities				
4.12	Identify and use a variety of web-based tools for real world, global applications involving communication to collect and disseminate information				
4.13	Use technology to locate, analyze, manipulate, and interpret information in a knowledge economy				
5.1	**Safety, Health and Environmental**				

		3	2	1	0
5.11	Manage the physical and social environment to reduce conflict and promote safety in settings (i.e. family, work, community, cyberspace)				
6.1	**Leadership and Teamwork and Ethics and Legal Responsibilities**				
6.11	Demonstrate quality work and effective communication by acknowledging diversity and cultural differences				
6.12	Determine the most appropriate response to workplace (school) situations based on legal and ethical considerations				
7.1	**Career Development and Systems**				
7.11	Organize a career portfolio (electronic or physical) to document knowledge, skills, and experience in a career field				
7.12	Recognize that individual career path has an impact on the national and global community				
Technical Skills					
8.1	**Analyze Factors**				
8.11	Evaluate the relationship among physical, emotional, social and intellectual components of individual and family wellness				
8.12	Analyze the effects of cultural, and social influences on food choices and other nutrition and wellness practices				
8.13	Examine the effects of global and local events and conditions on food choices and practices				
8.14	Identify legislation and regulations related to nutrition and wellness				
8.15	Examine how physical activity relates to wellness				
8.2	**Nutritional Needs of Individuals and Families** - (Guidance from a Registered Dietician suggested)				
8.21	Defend the impact of nutrients on health, appearance, and peak performance				
8.22	Analyze the relationship of nutrition and wellness to individual and family health throughout the life span				
8.23	Evaluate the effects of diet fads, food addictions, and eating disorders on wellness				
8.24	Recommend reliable sources of food and nutrition information, including foods labels that relate to health and wellness				
8.3	**Dietary Guidelines** - (Guidance from a Registered Dietician suggested)				
8.31	Apply various dietary guidelines in planning to meet nutrition and wellness needs				
8.32	Design strategies that meet the health and nutrition requirements of individuals and families with special needs				
8.33	Demonstrate ability to select, store, prepare, and serve nutritious and aesthetically pleasing foods				
8.34	Identify health and environmental benefits of eating a sustainable diet				
8.4	**Science and Technology**				
8.41	Describe how scientific and technical advances influence the nutrient content, availability, and safety of foods				
8.42	Assess how the scientific and technical advances in food processing, storage, product development, and distribution influence nutrition and wellness				
8.43	Analyze the environmental impact of using science and technology in food development, storage and distribution				
	<u>Total:</u>				

<u>08067 – Nutrition & Wellness B (1 Credit)</u>

		3	2	1	0
	See Family & Community Services Pathway 19.0799				
	http://www.ksde.org/Portals/0/CSAS/Content%20Area%20(F-L)/Family%20and%20Consumer%20Sciences/Human%20Services/Family%20and%20Community%20Services%20Pathway/15-16%20Fam%20Comm%20Servs%20Design%207-14.pdf				
1.1	**Academic Foundations**				
1.11	Use information to locate, comprehend, make inferences, and draw conclusions				
1.12	Adjust original rational number estimate of a real-world problem based on additional information (a frame of reference)				
1.13	Generate and/or solve multi-step real-world problems with real numbers and mathematical concepts				
1.14	Research, apply, and evaluate information to accomplish tasks				
1.15	Apply fundamental knowledge of economics to enhance learner achievement				
2.1	**Communications**				
2.11	Use appropriate communication strategies for the most effective outcome				
2.12	Demonstrate the use of verbal, listening, and writing skills to communicate clearly				
3.1	**Problem Solving, Dilemma Solving, and Critical Thinking**				
3.11	Identify common tasks that require employers to use problem-solving skills				
3.12	Use problem-solving and critical thinking skills to improve a situation or process				
3.13	Create ideas, proposals, and solutions to a problem				

4.1	Information Technology Applications				
4.11	Use information technology tools to manage and perform work (school) responsibilities				
4.12	Identify and use a variety of web-based tools for real world, global applications involving communication to collect and disseminate information				
4.13	Use technology to locate, analyze, manipulate, and interpret information in a knowledge economy				
5.1	Safety, Health and Environmental				
5.11	Manage the physical and social environment to reduce conflict and promote safety in settings (i.e. family, work, community, cyberspace)				
6.1	Leadership and Teamwork and Ethics and Legal Responsibilities				
6.11	Demonstrate quality work and effective communication by acknowledging diversity and cultural differences				
6.12	Determine the most appropriate response to workplace (school) situations based on legal and ethical considerations				
7.1	Career Development and Systems				
7.11	Organize a career portfolio (electronic or physical) to document knowledge, skills, and experience in a career field				
7.12	Recognize that individual career path has an impact on the national and global community				
Technical Skills					
8.1	Analyze Factors				
8.11	Evaluate the relationship among physical, emotional, social and intellectual components of individual and family wellness				
8.12	Analyze the effects of cultural, and social influences on food choices and other nutrition and wellness practices				
8.13	Examine the effects of global and local events and conditions on food availability choices and consumer practices				
8.14	Identify legislation and regulations related to nutrition and wellness				
8.15	Examine how physical activity relates to wellness				
8.2	Nutritional Needs of Individuals and Families				
8.21	Defend the impact of nutrients on health, appearance, and peak performance				
8.22	Analyze the relationship of nutrition and wellness to individual and family health throughout the life span				
8.23	Evaluate the effects of diet fads, food addictions, and eating disorders on wellness (i.e. food inspections, labeling laws and workings of USDA and FDA)				
8.24	Recommend reliable sources of food and nutrition information, including foods labels that relate to health and wellness				
8.25	Summarize information about procuring and maintaining health care to meet the needs of individuals and families				
8.3	Dietary Guidelines				
8.31	Apply various dietary guidelines in planning to meet nutrition and wellness needs				
8.32	Design strategies that meet the health and nutrition requirements of individuals and families with special needs				
8.33	Demonstrate ability to select, store, prepare, and serve nutritious and aesthetically pleasing foods				
8.34	Identify health and environmental benefits of eating a sustainable diet				
8.35	Analyze the relationship between knowing how to cook to prevention of, or improvement of health conditions (e.g. obesity, high blood pressure)				
8.36	Demonstrate cooking methods that increase nutritional value, lower sodium, calories and/or fat content				
8.37	Apply menu planning principles to develop and modify menus to address a range of health related conditions (e.g. early child, senior years, lower blood pressure, loose body fat)				
8.4	Science and Technology				
8.41	Describe how scientific and technical advances influence the nutrient content, availability, and safety of foods				
8.42	Assess how the scientific and technical advances in food processing, storage, product development, and distribution influence nutrition and wellness				
8.43	Analyze the environmental impact of using science and technology in food development, storage and distribution				
8.44	Review public dialogue related to food safety, food technologies and related topics for accuracy of information				
8.5	Career Paths				
8.51	Explain roles and responsibilities of individuals engaged in food science, food technology, dietetics and nutrition careers				
8.52	Analyze opportunities for employment and entrepreneurial endeavors				
8.53	Summarize education and training requirements and opportunities for career paths in nutrition and wellness (i.e. nutrition educator, dietitian, food scientist, food developer, professional food taster, family and consumer sciences educator)				
8.54	Analyze the role of professional organizations in food science, food technology, dietetics and nutrition careers				
8.55	Identify strategies that enable nutrition and wellness professionals to become advocates				
	Total:				

14000 – Health Science I A (.5 Credit)

Academics:		3	2	1	0
1.1	**Human Structure and Function**				
1.11	Describe the basic structures and functions of cells, tissues, organs, and systems as they relate to homeostasis				
1.12	Compare relationships among cells, tissue, organs, and systems				
1.13	Explain body planes, directional terms, quadrants, and cavities				
1.14	Analyze the interdependence of the body systems as they relate to wellness, disease, disorders, therapies, and care rehabilitation				
1.2	**Disease and Disorders**				
1.21	Compare selected diseases/disorders including respective classification(s), causes, diagnoses, therapies, and care/rehabilitation to include biotechnological applications				
1.22	Analyze methods to control the spread of pathogenic microorganisms				
1.23	Analyze body system changes in light of diseases, disorders, and wellness				
1.3	**Medical Mathematics**				
1.31	Apply mathematical computations related to healthcare procedures				
1.32	Apply mathematical principles to conversion equations used in the healthcare delivery system				
1.33	Apply mathematical principles involving temperature, weights, and measures used in the healthcare delivery system				
1.34	Analyze diagrams, charts, graphs and tables to interpret healthcare results				
Communications:					
2.1	**Concepts of Effective Communication**				
2.11	Apply active listening skills using reflection, restatement, and clarification techniques				
2.12	Demonstrate courtesy to others including self-introduction				
2.13	Identify and interpret verbal and non-verbal behaviors to augment communication				
2.14	Identify communication styles based on various healthcare scenarios				
2.2	**Written Communication Skills**				
2.21	Recognize, organize, write and compile technical information and summaries				
2.22	Use medical terminology to communicate information, data and observations				
2.23	Use medical terminology within a scope of practice in order to interpret, transcribe and communicate information, data and observations				
Systems:					
3.1	**Health Care Delivery System**				
3.11	Understand the healthcare delivery system (public, private, government, and non-profit).				
3.12	Describe the responsibilities of consumers within the healthcare system.				
3.13	Assess the impact of emerging issues on healthcare delivery systems.				
Employability Skills:					
4.1	**Personal Traits of the Healthcare Professional**				
4.11	Classify the personal traits and attitudes desirable in a member of the healthcare team.				
4.12	Summarize professional standards as they apply to hygiene, dress, language, confidentiality, and behavior.				
4.2	**Employability Skills**				
4.21	Identify and describe employability skills in healthcare.				
4.3	**Career Exploration**				
4.31	Identify a variety of careers in Health Science				
4.32	Identify specific careers and the job responsibilities, daily duties, skill requirements, and interaction with patients and/or staff				
4.33	Develop a program of study that lists secondary classes, CTE classes, post-secondary institution program, certifications, and other training needed for a career				
Legal Responsibilities:					
5.1	**Legal Implications**				
5.11	Analyze legal responsibilities, limitations, and implications of actions				
5.12	Apply procedures for accurate documentation and use of electronic and print health care records.				
Ethics:					
6.1	**Ethical Practice**				
6.11	Differentiate between ethical and legal issues impacting health care				
6.12	Analyze legal and ethical aspects of confidentiality				

		3	2	1	0
6.13	Utilize procedures for reporting activities and behaviors of patients/clients that affect the health, safety, and welfare of others.				
6.2	**Cultural, Social, and Ethnic Diversity**				
6.22	Identify and describe respectful and empathetic treatment of ALL patients/clients (customer service)				
	<u>Total:</u>				

<u>14001 – Health Science I B (1 Credit)</u>

Academics:		3	2	1	0
1.1	**Human Structure and Function**				
1.11	Describe the basic structures and functions of cells, tissues, organs, and systems as they relate to homeostasis				
1.12	Compare relationships among cells, tissue, organs, and systems				
1.13	Explain body planes, directional terms, quadrants, and cavities				
1.14	Analyze the interdependence of the body systems as they relate to wellness, disease, disorders, therapies, and care rehabilitation				
1.2	**Disease and Disorders**				
1.21	Compare selected diseases/disorders including respective classification(s), causes, diagnoses, therapies, and care/rehabilitation to include biotechnological applications				
1.22	Analyze methods to control the spread of pathogenic microorganisms				
1.24	Analyze body system changes in light of diseases, disorders, and wellness				
1.3	**Medical Mathematics**				
1.31	Apply mathematical computations related to healthcare procedures				
1.32	Apply mathematical principles to conversion equations used in the healthcare delivery system				
1.33	Apply mathematical principles involving temperature, weights, and measures used in the healthcare delivery system				
1.35	Analyze diagrams, charts, graphs and tables to interpret healthcare results				
Communications:					
2.1	**Concepts of Effective Communication**				
2.13	Apply active listening skills using reflection, restatement, and clarification techniques				
2.14	Demonstrate courtesy to others including self-introduction				
2.15	Identify and interpret verbal and non-verbal behaviors to augment communication				
2.17	Identify communication styles based on various healthcare scenarios				
2.2	**Written Communication Skills**				
2.24	Recognize, organize, write and compile technical information and summaries				
2.25	Use medical terminology to communicate information, data and observations				
2.26	Use medical terminology within a scope of practice in order to interpret, transcribe and communicate information, data and observations				
Systems:					
3.1	**Health Care Delivery System**				
3.11	Understand the healthcare delivery system (public, private, government, and non-profit).				
3.12	Describe the responsibilities of consumers within the healthcare system.				
3.13	Assess the impact of emerging issues on healthcare delivery systems.				
Employability Skills:					
4.1	**Personal Traits of the Healthcare Professional**				
4.11	Classify the personal traits and attitudes desirable in a member of the healthcare team.				
4.12	Summarize professional standards as they apply to hygiene, dress, language, confidentiality, and behavior.				
4.2	**Employability Skills**				
4.21	Identify and describe employability skills in healthcare.				
4.3	**Career Exploration**				
4.31	Identify a variety of careers in Health Science				
4.32	Identify specific careers and the job responsibilities, daily duties, skill requirements, and interaction with patients and/or staff				
4.33	Develop a program of study that lists secondary classes, CTE classes, post-secondary institution program, certifications, and other training needed for a career				
Legal Responsibilities:					
5.1	**Legal Implications**				

5.11	Analyze legal responsibilities, limitations, and implications of actions				
5.12	Apply procedures for accurate documentation and use of electronic and print health care records.				
Ethics:					
6.1	**Ethical Practice**				
6.11	Differentiate between ethical and legal issues impacting health care				
6.12	Analyze legal and ethical aspects of confidentiality				
6.13	Utilize procedures for reporting activities and behaviors of patients/clients that affect the health, safety, and welfare of others.				
6.2	**Cultural, Social, and Ethnic Diversity**				
6.22	Identify and describe respectful and empathetic treatment of ALL patients/clients (customer service)				
Safety Practices:					
7.1	**Infection Control**				
7.11	Explain principles of infection control.				
7.12	Assess methods of controlling the spread and growth of microorganisms				
7.2	**Personal safety**				
7.23	Use personal protective equipment as appropriate to the environment				
Teamwork:					
8.1	**Health Care Teams**				
8.12	Recognize characteristics of effective teams				
8.13	Analyze roles of various team participants				
8.15	Accept compromise as necessary to ensure a best outcome				
Health Maintenance Practices:					
9.1	**Healthy Behaviors**				
9.11	Apply behaviors that promote health and wellness				
9.12	Describe strategies for the prevention of diseases including health screening and examinations				
Technical Skills:					
10.1	**Technical Skills**				
10.11	Apply Standard Precautions as described in the rules and regulations set forth by the Occupational Safety and Health Administration (OSHA)				
10.12	Apply procedures for measuring and recording vitals signs including the normal ranges.				
Information Technology Applications:					
11.1	**Communication Technology Health Information Management**				
11.11	Understand the content and diverse uses of health information				
11.2	**Basic Computer Literacy Skills**				
11.21	Apply basic computer concepts and terminology in order to use computers and other mobile devices.				
11.22	Demonstrate the use of file organization and information storage.				
11.23	Use basic word processing, spreadsheet, and database applications.				
11.24	Evaluate the validity of web-based resources.				
11.25	Demonstrate use of appropriate email and social media usage.				
	Total:				

14002 – Health Science II (1 Credit)

Academics:		3	2	1	0
1.11	Compare the aging process among the body systems				
1.12	Investigate biomedical therapies as they relate to the prevention and treatment of disease				
1.13	Discuss Complementary/alternative health practices as they relate to the prevention and treatment of disease				
1.14	Analyze the interdependence of the body systems as they relate to wellness, disease, disorders, therapies, and care rehabilitation				
Communications:					
2.11	Use medical terminology to communicate information, data and observations				
2.12	Use medical terminology within a scope of practice in order to interpret, transcribe and communicate information, data and observations				

Systems:					
3.11	Construct a health care delivery system model				
3.12	Predict where and how factors such as: cost, managed care, technology, an aging population, access to care, alternative therapies, and lifestyle/behavior changes may affect various health care delivery system models				
3.13	Project outcomes as interconnected components of a modified health care system				
3.14	Calculate the cost effectiveness of two separate health care delivery systems using the same client procedure				
Employability Skills:					
4.11	Practice personal integrity and honesty				
4.12	Evaluate work assignments and initiate action with confidence commensurate with work assignment				
4.13	Formulate solutions to problems using critical thinking skills (analyze, synthesize, evaluate) independently and in teams				
4.14	Listen attentively to verbal instruction, requests, and other information to verify accuracy				
Legal Responsibilities					
5.11	Compare and contrast behaviors and practices that could result in malpractices, liability, or negligence				
5.12	Comply with policies and requirements for documentation and record keeping				
5.13	Comply with established risk management criteria and procedures				
5.14	Determine when an incident is reportable				
Ethics:					
6.11	Analyze legal and ethical aspects of confidentiality				
6.12	Discuss bioethical issues related to health care				
6.13	Analyze and evaluate the implications of medical ethics				
Safety:					
7.11	Contrast medical and surgical asepsis				
7.12	Evaluate and modify the environment to create and maintain safe working conditions				
7.13	Identify methods of fire prevention in the health care setting				
7.14	Use Materials Safety Date Sheets (MSDS), Globally Harmonized System (GHS), and 16 section Safety Data Sheet (SDS)				
7.15	Interpret the evacuation plan for the health care setting				
Teamwork:					
8.11	Respond to given critical situations appropriately as a member of a team				
8.12	Communicate verbally and non-verbally with team colleagues to assure a best result for the client				
8.13	Collaborate with others to formulate team objectives				
8.14	Act responsibly as a team member, completing assigned tasks in a timely and effective manner				
8.15	Actively listen to other team members				
8.16	Exercise leadership skills as appropriate				
Health Maintenance:					
9.11	Use practices that promote the prevention of disease and injury				
9.12	Use appropriate safety practices as related to high-risk behaviors				
Technical Skills:					
10.11	Obtain Cardiopulmonary Resuscitation (CPR) certification Automated External Defibrillator (AED)				
Information Technology Applications:					
11.11	Interpret information from electronic medical documents				
11.12	Organize records and files to maintain data as required				
11.13	Use communication technology (Fax, E-mail, internet) to access and distribute data and other information				
11.14	Execute the use of software, hardware, and the internet				
11.15	Identify safety procedures and risks associated with using technology and patient information				
11.16	Identify common technology used within the health science area				
	<u>Total:</u>				

14051 – Nursing I (.5 Credit)

		3	2	1	0
1.1	Introduction				
1.11	Describe and define Nursing (Scope, function, and standards of Nursing Practice)				
1.12	Identify and describe the various types of occupations within nursing				
1.13	Identify various types of clients and how nurses can support meeting those needs (including children, aging adults, mental health issues, developmental challenges and physical disabilities)				
1.14	Identify and describe the responsibilities of different types of nurses nurse and required professionalism				
1.15	Identify and describe the difference between holistic verses conventional medicine				
1.16	Identify and describe the requirement for licensure and certification to work in various fields of nursing				
1.17	Identify the education (short term, 1yr, 2yr & 4 yr), various certifications and skills needed to work in nursing				
1.18	Identify and research local, regional and national businesses that employ nurses				
1.19	Research the organizational charts of businesses to identify where nurses fit within				
1.20	Analyze the care setting and environmental impacts that affect the daily duties of a nurse in a variety of occupations.				
2.1	Legal				
2.11	Describe the legal and ethical standards of caring for individuals				
2.12	Understand the scope and importance of confidentiality				
2.13	Research and identify common health care requirements and forms to meet patient confidentiality				
2.14	Identify and describe common situations where nurses are required to act in accordance to local policy, state guidance, and federal mandate				
2.15	Identify and describe common patient rights				
2.16	Identify and describe common nurses rights				
2.17	Identify and describe common employability requirement for nursing fields (certifications, licensure, drug related, work experience, supervision)				
3.1	Nursing Standards & Professionalism				
3.11	Explain and demonstrate the basic knowledge of the significance of standards				
3.12	Identify and describe 6 standards of practice in nursing (Assessment, Diagnosis, Outcomes Identification, Planning, Implementation, and Evaluation)				
3.13	Identify and describe 10 standards of professional performance in nursing (Ethics, Education, Evidence-based Practice, Quality of Practice, Communication, Leadership, Collaboration, Professional Practice Evaluation, Resource Utilization, and Environmental Health)				
3.14	Demonstrate the 6 standards of practice (Assessment, Diagnosis, Outcome Identification, Planning, Implementation, and Evaluation)				
3.15	Demonstrate 10 standards of professional performance				
3.16	Demonstrate effective communication				
3.17	Understand how accurate observations, recording and reporting are critical to effective care				
3.18	Identify and describe different standards and practices for a variety of clients and their families (children, infants, adults, geriatric, whole family)				
3.19	Identify and describe appropriate dress code and safety gear for a variety of nursing positions				
3.20	Identify and describe appropriate work related behavior, communication, and interaction				
3.21	Identify and describe good oral and written communication skills				
4.1	Human Body				
4.11	Identify and describe the human body systems				
4.12	Identify and describe common terminology and coding used to identify the human body and its systems				
4.13	Describe basic nutrition for a variety of clients (children, infants, adults, geriatric)				
4.14	Identify and describe appropriate levels for a variety of human body systems (blood pressure, repertory, weight, heartbeat, etc.)				
4.15	Identify and describe human development and how it relates to health care (infant, child, adult, geriatric)				
5.1	Safety				
5.11	Prevent accidents by using proper safety techniques for the prevention of accidents				
5.12	Identify and demonstrated skills mastering emergency care				
5.13	Identify and demonstrated skills mastering disaster preparedness				
5.14	Identify and demonstrated skills mastering safety in the home health setting				
5.15	Identify effective body mechanics, rang of motion, and client movement/transport techniques				
5.16	Identify common bacteria, viruses, and contaminants in healthcare and how to safely deal with them				
6.1	Academics				

		3	2	1	0
6.11	Identify and demonstrate common mathematical calculations used in nursing (measuring, conversion, formulas, data recording, reading charts/graphs, patient stats)				
6.12	Demonstrate proficiency in recording data, patient notes, smart goals, and general written communication				
6.13	Demonstrate proficiency in creating written work (schedules, registration, timetables, charts, and examples of time management)				
6.14	Identify and demonstrate common scientific, technology and technical skills used in nursing				
7.1	Skills				
7.11	Identify and describe key skills needed to perform the duties of a variety of nursing careers (pediatric, neonatal, home health, family-centered, surgical)				
7.12	Identify and describe common procedures that nurses perform or are involved				
7.13	Identify common medications/narcotics, their doses, application, and side effects				
7.14	Identify and describe basic first-aid, CPR and other emergency skills used in healthcare				
7.15	Identify and describe common vitals and recording methods performed by a nurse				
7.16	Identify and describe common illnesses and identification				
7.17	Identify and describe common patient or lab tests				
7.18	Discuss and identify the use of and working with other health care professionals' records				
8.1	Careers				
8.11	Identify and review nursing careers at the local, regional, and national level (wages, labor market, educational requirements, experience, certifications & licensure)				
8.12	Identify local nursing professionals and collaborate to identify job duties, skill and knowledge requirements, work schedules, and other activities mandated				
8.13	Collaborate with local health care businesses to view job applications, requirements for employment, and policies for employees				
8.14	Identify different levels of nursing within a health care business and what the requirements are for each level				
8.15	Identify continuing education requirements, certifications and licensure need for a variety of positions and levels in a health care business				
	<u>Total:</u>				

14052 – Nursing II (.5 Credit)

		3	2	1	0
1.1	Introduction				
1.11	Identify and describe the various types of occupations within nursing				
1.12	Identify various types of clients and how nurses can support meeting those needs (including children, aging adults, mental health issues, developmental challenges and physical disabilities)				
1.13	Identify and describe the responsibilities of different types of nurses nurse and required professionalism				
1.14	Identify and describe the requirement for licensure and certification to work in various fields of nursing				
1.15	Identify the education (short term, 1yr, 2yr & 4 yr), various certifications and skills needed to work in nursing				
1.16	Identify and research local, regional and national businesses that employ nurses				
1.17	Identify and collaborate with local nursing professionals in the area				
2.1	Legal				
2.11	Describe the legal and ethical standards of caring for individuals				
2.12	Understand the scope and importance of confidentiality				
2.13	Research and identify common health care requirements and forms to meet patient confidentiality				
2.14	Identify and describe common situations where nurses are required to act in accordance to local policy, state guidance, and federal mandate				
2.15	Identify and describe common patient rights				
2.16	Identify and describe common nurses rights				
3.1	Nursing Standards & Professionalism				
3.11	Identify and describe 6 standards of practice in nursing (Assessment, Diagnosis, Outcomes Identification, Planning, Implementation, and Evaluation)				
3.12	Identify and describe 10 standards of professional performance in nursing (Ethics, Education, Evidence-based Practice, Quality of Practice, Communication, Leadership, Collaboration, Professional Practice Evaluation, Resource Utilization, and Environmental Health)				
3.13	Demonstrate effective communication				
3.14	Understand how accurate observations, recording and reporting are critical to effective care				
3.15	Identify and describe different standards and practices for a variety of clients and their families (children, infants, adults, geriatric, whole family)				
3.16	Identify and collaborate with local nursing professionals in the area to gain awareness of job duties, regulations, policy, and standards				
3.17	Research and identify specific areas in nursing where standards and professionalism may very				

		3	2	1	0
3.18	Review local health care business standards, requirements and policies for nurses				
4.1	**Human Body**				
4.11	Identify and describe the human body systems				
4.12	Identify and describe common terminology and coding used to identify the human body and its systems				
4.13	Identify and describe appropriate levels for a variety of human body systems (blood pressure, repertory, weight, heartbeat, etc.)				
5.1	**Safety**				
5.11	Prevent accidents by using proper safety techniques for the prevention of accidents				
5.12	Identify and demonstrated skills mastering emergency care				
5.13	Identify effective body mechanics, rang of motion, and client movement/transport techniques				
5.14	Identify common bacteria, viruses, and contaminants in healthcare and how to safely deal with them				
6.1	**Academics**				
6.11	Identify and demonstrate common mathematical calculations used in nursing (measuring, conversion, formulas, data recording, reading charts/graphs, patient stats)				
6.12	Demonstrate proficiency in recording data, patient notes, smart goals, and written communication				
6.13	Demonstrate proficiency in creating written work (schedules, registration, timetables, charts, and examples of time management)				
7.1	**Skills**				
7.11	Identify and describe key skills needed to perform the duties of at least 3 nursing careers (ex. ambulatory care, cardiac care, clinical, midwife, DNP, emergency, forensic)				
7.12	Identify and describe common procedures that nurses perform in selected career or are involved				
7.13	Identify common medications/narcotics, their doses, application, and side effects				
7.14	Identify and describe common and emerging technology within selected nursing careers				
7.15	Identify and describe common vitals and recording methods performed by a nurse				
7.16	Identify and describe pain management and various techniques used				
7.17	Identify and describe common patient or lab tests specific to a nursing career				
7.18	Discuss and identify the use of and working with other health care professionals' records				
7.19	Identify specific skills and procedures for demonstrative purposes.				
8.1	**Careers**				
8.11	Identify and research at least 3 different nursing specialties				
8.12	Identify duties, responsibilities, average state and national pay scales, and average work schedule				
8.13	Identify common certifications and educational programs available in the region that pertain to specific nursing specialties				
8.14	Identify possible advancements within the healthcare field for nurses				
8.15	Partner with local or regional healthcare business(s) for presentations, site visit, or equipment demonstrations				
8.16	Identify possible mentoring opportunities for students				
8.17	Collaborate with local health care businesses to view job applications, requirements for employment, and policies for employees				
8.18	Identify different levels of nursing within a health care business and what the requirements are for each level				
8.19	Identify continuing education requirements, certifications and licensure need for a variety of positions and levels in a health care business				
	Total:				

14053 – Home Health Care (.5 Credit)

		3	2	1	0
1.1	**Introduction**				
1.11	Describe and define Home Health Care				
1.12	Identify various types of clients and how the home health worker can support meeting those needs (including children, aging adults, mental health issues, developmental challenges and physical disabilities)				
1.13	Describe and demonstrate the responsibility for the health care worker's health and management of a job including professionalism				
1.14	Describe and define and the Home Health Care Team				
1.15	Describe and define the nursing process in Home Health Care				
1.16	Identify the education, certifications and skills needed to work in Home Health Care				
1.17	Analyze the care setting and environmental impacts the care of the client, the environment and adjustment to that care.				
2.1	**Legal**				

		3	2	1	0
2.11	Describe the legal and ethical standards of caring for individuals in the home				
2.12	Understand the scope and importance of confidentiality				
3.1	**Home Health Skills**				
3.11	Explain and demonstrate the basic knowledge and procedures required to master prior to working in the home health setting				
3.12	Describe and demonstrate adaptive effective body mechanics when performing ADL tasks in the home care setting				
3.13	Describe and demonstrate ability to provide a client with basic nutrition in a home health setting				
3.14	Identify and demonstrate procedures relating to infection control practices in the home health setting				
3.15	Identify and demonstrate the 6 standards of practice (Assessment, Diagnosis, Outcome Identification, Planning, Implementation, and Evaluation)				
3.16	Identify and demonstrate standards of professional performance				
3.17	Explain the therapeutic relationship and how it contributes to meeting client needs and provides care.				
3.18	Demonstrate effective communication				
3.19	Understand how accurate observations, recording and reporting are critical to effective care				
4.1	**Human Body**				
4.11	Describe the human body systems and common disease processes seen in the home health care setting				
4.12	Describe the difference between chronic and acute disease processes				
4.13	Describe basic nutrition for the home health setting for a variety of clients				
5.1	**Safety**				
5.11	Prevent accidents by using proper safety techniques for the prevention of accidents				
5.12	Identify and demonstrated skills mastering emergency care				
5.13	Identify and demonstrated skills mastering disaster preparedness				
5.14	Identify and demonstrated skills mastering safety in the home health setting				
5.15	Demonstrate effective body mechanics when performing ADL tasks				
	<u>Total:</u>				

14055 – Emergency Medical Technology (.5 Credit) (*non-certifying course*)

		3	2	1	0
1.1	**Introduction**				
1.11	Define and describe emergency medical technology				
1.12	Identify careers in emergency medical technology				
1.13	Identify and describe common situations where emergency medical technology is used (including first aid, first responder, emergency medical treatment)				
1.14	Identify various types of clients and how emergency medical technology can support meeting those needs (including children, aging adults, adults, and physical disabilities)				
1.15	Identify regional business that offer emergency medical technology				
1.16	Identify the education, certifications and skills needed to work in emergency medicine				
1.17	Identify the common job duties of an emergency medical technician				
1.18	List the 10 components of an EMS system				
1.19	Identify common emergencies and illnesses.				
1.20	Identify emergency procedures for first aid of emergencies.				
2.1	**Legal**				
2.11	Describe the legal and ethical standards of emergency medicine				
2.12	Understand the scope and importance of confidentiality				
2.13	Identify local, state, and national regulations and laws pertaining to working with or assisting patients and their records				
3.1	**Human Body**				
3.11	Explain and demonstrate the basic knowledge human body systems				
3.12	Identify directional terms, anatomical planes and body position				
3.13	Identify and describe the skeletal system				
3.14	Identify and describe the muscle system				
3.15	Identify and describe the circulatory system				
4.1	**Patient Care**				

			3	2	1	0
4.11	Identify and demonstrate the 6 standards of practice (Assessment, Diagnosis, Outcome Identification, Planning, Implementation, and Evaluation)					
4.12	Identify and demonstrate standards of professional performance					
4.13	Demonstrate effective communication (verbally and non-verbally)					
4.14	Understand how accurate observations, recording and reporting are critical to effective care					
4.15	Recognizes individual and cultural differences					
4.16	Recognizes reaction to illness and disability					
4.17	Exhibits professional conduct					
5.1	**Patient Assessment**					
5.11	Identify and describe the techniques for assessing mental status.					
5.12	Identify and describe the techniques for assessing if the patient is breathing.					
5.13	Identify and describe the techniques for assessing if the patient has a pulse.					
5.14	Identify and describe the techniques for assessing the patient for external bleeding.					
5.15	Identify and describe the techniques for assessing the patient's skin color, temperature, condition, and capillary refill.					
5.16	Identify and describe appropriate tests and measurements for a variety of client types					
5.17	Examine patients/clients by obtaining a history from them and from other sources					
5.18	Examine patients/clients by performing systems reviews					
5.19	Describe an assessment of the medical patient.					
5.20	Identify various normal and abnormal findings during a patient assessment.					
6.1	**Basic Emergency Technology**					
6.11	Identify common signs and treatment for performing first aid for fractures, dislocations, sprains, and strains					
6.12	Identify common signs and treatment for performing first aid for seizures					
6.13	Identify common signs and treatment for performing first aid for a choking victim					
6.14	Identify common signs and treatment for performing first aid for an unconscious victim					
6.15	Identify common signs and treatment for performing first aid for controlling various types bleeding					
6.16	Research and identify common technologies, resources, supplies and common items to assist in first aid					
6.17	Research and identify differences in commonly used resources in the field verses a hospital setting					
6.18	Describe and describe the proper technique for CPR					
6.19	Describe and describe the proper technique for use of an AED					
7.1	**Interventions**					
7.11	Identify procedures to move, position and drape a patient					
7.12	Describe and describe proper oxygenation techniques for various medical patients.					
7.13	Discusses the six medications that Basic EMT's may administer.					
7.14	Discusses various dispositions available for the medical patient including priority transport, non-emergency transport and treat and release.					
8.1	**Safety**					
8.11	Identify possible accident prevention and appropriate proper safety techniques					
8.12	Demonstrate standard safety procedures					
8.13	Research and identify local, state and nation safety requirements					
8.14	Demonstrate proper personal safety techniques					
8.15	Accept responsibility for personal well-being and practice and follow safety guidelines.					
	Total:					

14060 – Physical Therapy (.5 Credit)

		3	2	1	0
1.1	**Introduction**				
1.11	Define and describe physical therapy				
1.12	Identify careers in physical therapy				
1.13	Identify the difference between physical therapy and other medical fields				
1.14	Identify and describe common situations where physical therapy is used				

1.15	Identify various types of clients and how a physical therapist can support meeting those needs (including children, aging adults, adults, and physical disabilities)				
1.16	Identify regional business that offer physical therapy				
1.17	Identify the education, certifications and skills needed to work in physical therapy				
1.18	Identify the common job duties of a physical therapist vs. other medical fields				
1.19	Identify the common impairments and disabilities physical therapist may experience				
2.1	Legal				
2.11	Describe the legal and ethical standards of caring for individuals				
2.12	Understand the scope and importance of confidentiality				
2.13	Identify local, state, and national regulations and laws pertaining to working with patients and records				
3.1	Human Body				
3.11	Explain and demonstrate the basic knowledge human body systems				
3.12	Identify directional terms, anatomical planes and body position				
3.13	Identify and describe the skeletal system				
3.14	Identify and describe the muscle system				
3.15	Identify and describe the circulatory system				
4.1	Patient Care				
4.11	Identify and describe the 6 standards of practice (Assessment, Diagnosis, Outcome Identification, Planning, Implementation, and Evaluation)				
4.12	Identify and demonstrate standards of professional performance				
4.13	Demonstrate effective communication (verbally and non-verbally)				
4.14	Understand how accurate observations, recording and reporting are critical to effective care				
4.15	Recognizes individual and cultural differences				
4.16	Recognizes reaction to illness and disability				
4.17	Exhibits professional conduct				
4.18	Recognize developmental changes across the lifespan				
4.19	Identify and describe common exercise, stretching, and conditioning for fictitious clients at various stages				
4.20	Identify tools, accessories and equipment that may be used to administer physical therapy				
5.1	Examination				
5.11	Identify and determine appropriate tests and measurements for a variety of client types				
5.12	Describe how to examine patients/clients by obtaining a history from them and from other sources				
5.13	Describe how to examine patients/clients by performing systems reviews				
5.14	Describe how to examine patients/clients by selecting and administering culturally appropriate and age related tests and measures				
5.15	Evaluate data from the examination (history, systems review, and tests and measures) to make initial judgment regarding a fictitious client				
6.1	Interventions				
6.11	Identify procedures to move, position and drape a patient				
6.12	Identify and apply principles of posture and body mechanics				
6.13	Define and explain various Range Of Motion (ROM) exercises				
6.14	Identify various types of manual therapy				
6.15	Define and describe basics of massage therapy				
6.16	Define and describe basics of mobilization therapy				
6.17	Define and describe basics of manipulation therapy				
6.18	Identify and describe stretching exercises for increased range of motion				
6.19	Identify and describe stretching exercises for stress reduction				
6.20	Identify and describe exercises for strength training various parts of the body for different types of clients				
6.21	Develop and instruct a custom exercise and stretching program for a selected fictitious client				
7.1	Modalities				
7.11	Describe the application of superficial heat and cold modalities				
7.12	Describe the several forms of therapeutic massage				
8.1	Exercise				
8.11	Describe balance and coordination exercises				
8.12	Identify various types of aerobic conditioning used in physical therapy				

		3	2	1	0
8.13	Describe various breathing exercise and coughing techniques				
8.14	Research and identify different aspects and areas of exercise science that may be beneficial				
8.15	Identify key components of exercise that would be beneficial to a variety of injuries, restricted movements, or other related physical challenges				
8.16	Research and design a exercise routine for a fictitious client with an identified physical need				
9.1	**Patient Records**				
9.11	Demonstrate knowledge of medical and technical terminology used in physical therapy				
9.12	Demonstrate mastery in recording, note booking, record completion, and visual records				
9.13	Discuss and identify the use of and working with other health care professionals' records				
10.1	**Safety**				
10.11	Identify possible accident prevention and appropriate proper safety techniques				
10.12	Demonstrate standard safety procedures				
10.13	Research and identify local, state and nation safety requirements				
10.14	Demonstrate proper personal safety techniques				
	<u>Total:</u>				

<u>14062 – Care of Athletes (.5 Credit)</u>

		3	2	1	0
1.1	**Introduction**				
1.11	Define and describe careers in the athletic medicine field (including, but not limited to, orthopedists, general practitioners, and athletic trainers)				
1.12	Identify and describe common situations where athletic medicine is used				
1.13	Identify various types of clients and how health care professionals can support meeting those needs (including children, aging adults, adults, and physical disabilities)				
1.14	Identify regional providers that offer services in athletic medicine				
1.15	Identify the education, certifications, and skills needed to work in various athletic medicine careers				
1.16	Identify the common job duties of health care providers associated with athletic medicine				
1.17	Identify the common impairments and disabilities health care providers may experience in the area of athletic medicine				
2.1	**Legal**				
2.11	Describe the legal and ethical standards of caring for individuals				
2.12	Understand the scope and importance of confidentiality				
2.13	Identify local, state, and national regulations and laws pertaining to working with patients and records				
3.1	**Human Body**				
3.11	Explain and demonstrate the basic knowledge human body systems				
3.12	Identify directional terms, anatomical planes, and body positions				
3.13	Identify and describe the skeletal system				
3.14	Identify and describe the muscle system				
3.15	Identify and describe the circulatory system				
4.1	**Patient Care**				
4.11	Identify and demonstrate standards of practice				
4.12	Identify and demonstrate standards of professional performance				
4.13	Demonstrate effective communication (verbally and non-verbally)				
4.14	Understand how accurate observations, recording, and reporting are critical to effective care				
4.15	Recognize individual and cultural differences				
4.16	Recognize reaction to illness and disability				
4.17	Recognize developmental changes across the lifespan				
5.1	**Examination**				
5.11	Identify and determine appropriate tests and measurements for a variety of client types				
5.12	Describe how to examine patients/clients by obtaining a history from them and from other sources				
5.13	Describe how to examine by performing systems reviews				
5.14	Describe how to examine patients/clients by selecting and administering culturally appropriate and age related tests and measures				

		3	2	1	0
5.15	Evaluate data from the examination to make initial judgment regarding client				
6.1	**Intervention and Rehabilitation**				
6.11	Identify procedures to move, position, and drape a patient				
6.12	Identify and apply principles of posture and body mechanics				
6.13	Define and demonstrate various Range of Motion (ROM) exercises				
6.14	Identify various types of manual therapy				
6.15	Define and describe basics of manual therapy (including, but not limited to, massage, mobilization, and manipulation)				
6.16	Identify and describe stretching exercises for increased range of motion and stress reduction				
6.17	Identify and describe exercises for strength training various parts of the body for different types of clients				
6.18	Develop and instruct a custom exercise and stretching program for a selected fictitious client				
6.19	Describe balance and coordination exercises				
6.20	Identify various types of aerobic conditioning used in athletic medicine				
6.21	Identify and demonstrate safe progression of a rehabilitation plan				
7.1	**Modalities**				
7.11	Describe the application of superficial heat and cold modalities				
7.12	Describe several forms of therapeutic massage				
7.13	Identify other therapeutic modalities available to the athletic medicine practitioner (including, but not limited to, traction, electrical stimulation, and ultrasound)				
8.1	**Patient Records**				
8.11	Demonstrate knowledge of medical and technical terminology used in record keeping				
8.12	Demonstrate mastery in recording, note booking, record completion, and visual records				
8.13	Discuss and identify the use of, and working with, other health care professionals' records, orders, and releases				
9.1	**Safety**				
9.11	Identify possible accident prevention and appropriate proper safety techniques				
9.12	Demonstrate standard safety procedures including, but not limited to, equipment and environment				
9.13	Research and identify local, state and nation safety requirements and recommendations				
9.14	Demonstrate proper personal safety techniques				
10.1	**Literature and Research**				
10.11	Demonstrate understanding of different types of professional publications (including, but not limited to, peer reviewed journals)				
10.12	Demonstrate mastery in citing professional sources when writing research reports				
10.13	Demonstrate understanding of the importance of ethical acknowledgement of professionals' intellectual property				
10.14	Demonstrate mastery of data analysis (including, but not limited to, data reports such as charts and graphs)				
10.15	Demonstrate mastery of medical calculations (including, but not limited to measurement, conversion, percentages, fractions, decimals and formulas)				
	<u>Total:</u>				

14072 – Sports Medicine I (1 Credit)

		3	2	1	0
1.1	**Introduction**				
1.11	Define and describe careers in the sports medicine field (including, but not limited to exercise physiologist, physical therapy, medical doctor, and athletic trainers)				
1.12	Identify and describe common situations where sports medicine is used				
1.13	Identify various types of clients and how health care professionals can support meeting those needs (including children, aging adults, adults, and physical disabilities)				
1.14	Identify regional providers that offer services in sports medicine				
1.15	Identify the education, certifications, licensure, and skills needed to work in various sports medicine careers				
1.16	Identify the common job duties of health care providers associated with sports medicine				
1.17	Identify the common impairments and disabilities health care providers may experience in the area of sports medicine				
1.18	Identify common and appropriate dress/attire for sports medicine				
2.1	**Legal**				
2.11	Describe the legal and ethical standards of caring for individuals				
2.12	Understand the scope and importance of confidentiality				

2.13	Identify local, state, and national regulations and laws pertaining to working with patients and records				
2.14	Identify current and emerging legal issues for team physicians, athletic trainers, physical therapists and other occupations related to sports medicine				
2.15	Identify liability issues regarding high school teams and employees in sports medicine				
2.16	Research and discuss physically impaired athlete's legal right to participate in sports				
2.17	Research and discuss the Rehabilitation Act of 1973 and the Americans with Disabilities Act and how it relates to sports medicine				
2.18	Review and become familiar with inclement weather policies				
2.19	Review and become familiar with medical clearance policies				
2.20	Research and discuss policies when dealing with minors, clients of the opposite sex, and emergency situations				
2.21	Research and discuss policies when dealing with clients that possibly have or have infectious diseases				
2.22	Locate reputable resources online and in print that offer guidance on legal rights and best practices				
3.1	**Human Body**				
3.11	Explain and demonstrate the basic knowledge human body systems				
3.12	Identify directional terms, anatomical planes, and body positions				
3.13	Identify and describe the skeletal system				
3.14	Identify and describe the muscle system				
3.15	Identify and describe the circulatory system				
3.16	Explore how the human body systems work together and function efficiently				
3.17	Explore how the human body systems can fail and how these can relate to sports activities				
3.18	Explore how foreign substances can affect how the human body systems work together and function				
4.1	**Patient Care**				
4.11	Identify and demonstrate standards of practice				
4.12	Identify and demonstrate standards of professional performance				
4.13	Demonstrate effective communication (verbally and non-verbally)				
4.14	Understand how accurate observations, recording, and reporting are critical to effective care				
4.15	Recognize individual and cultural differences				
4.16	Recognize reaction to illness and disability				
4.17	Recognize developmental changes across the lifespan				
5.1	**Examination**				
5.11	Identify and determine appropriate tests and measurements for a variety of client types				
5.12	Describe how to examine patients/clients by obtaining a history from them and from other sources				
5.13	Describe how to examine by performing systems reviews				
5.14	Describe how to examine patients/clients by selecting and administering culturally appropriate and age related tests and measures				
5.15	Evaluate data from the examination to make initial judgment regarding a fictitious client				
5.16	Identify and describe various types of record reading and keeping associated with sports medicine examination (Clinic vs. On-field)				
5.17	Identify and describe procedures for dealing with routine check-up, suspected injury and emergency situations				
5.18	List common medical abbreviations used in sports medicine				
5.19	Identify an injury clearance chain of command				
5.20	Identify and explore common infectious diseases that may be found in sports medicine				
5.21	Identify and explore common allergic reactions that may be found in sports medicine				
5.22	Research and develop a risk evaluation tool				
6.1	**Intervention and Rehabilitation**				
6.11	Identify procedures to move, position, and drape a patient				
6.12	Identify and apply principles of posture and body mechanics				
6.13	Define and describe various Range of Motion (ROM) exercises				
6.14	Identify various types of manual therapy				
6.15	Identify and describe stretching exercises for increased range of motion and stress reduction				
6.16	Identify and describe exercises for strength training various parts of the body for different types of clients				
6.17	Develop and instruct a custom exercise and stretching program for a selected fictitious client				
6.18	Describe balance and coordination exercises				
6.19	Identify various types of aerobic conditioning used in athletic medicine				

		3	2	1	0
6.20	Identify and demonstrate safe progression of a rehabilitation plan				
6.21	Identify a variety of sports medicine kits and the components of effective kits				
6.22	Research and identify various uses of kinesiology in sports medicine				
7.1	**Modalities**				
7.11	Describe the application of superficial heat and cold modalities				
7.12	Describe several forms of therapeutic massage				
7.13	Identify other therapeutic modalities available in sports medicine				
8.1	**Patient Records**				
8.11	Demonstrate knowledge of medical and technical terminology used in record keeping				
8.12	Demonstrate mastery in recording, note booking, record completion, and visual records				
8.13	Discuss and identify the use of, and working with, other health care professionals' records, orders, and releases				
8.14	Review existing and practice completing sample standard patient forms				
8.15	Identify different records for on-field vs clinic settings				
9.1	**Safety**				
9.11	Identify possible accident prevention and appropriate proper safety techniques				
9.12	Demonstrate standard safety procedures including, but not limited to, equipment and environment				
9.13	Research and identify local, state and nation safety requirements and recommendations				
9.14	Demonstrate proper personal safety techniques				
10.1	**Literature and Research**				
10.11	Demonstrate understanding of different types of professional publications (including, but not limited to, peer reviewed journals)				
10.12	Demonstrate mastery in citing professional sources when writing research reports				
10.13	Demonstrate understanding of the importance of ethical acknowledgement of professionals' intellectual property				
10.14	Demonstrate mastery of data analysis (including, but not limited to, data reports such as charts and graphs)				
10.15	Demonstrate mastery of medical calculations (including, but not limited to measurement, conversion, percentages, fractions, decimals and formulas)				
	<u>Total:</u>				

14073 – Sports Medicine II (1 Credit)

		3	2	1	0
1.1	**Introduction**				
1.11	Define and describe careers in the sports medicine field (including, but not limited to exercise physiologist, physical therapy, medical doctor, and athletic trainers)				
1.12	Identify and describe common situations where sports medicine is used				
1.13	Identify various types of clients and how health care professionals can support meeting those needs (including children, aging adults, adults, and physical disabilities)				
1.14	Identify regional providers that offer services in sports medicine				
1.15	Identify the education, certifications, licensure, and skills needed to work in various sports medicine careers				
1.16	Identify the common job duties of health care providers associated with sports medicine				
1.17	Identify the common impairments and disabilities health care providers may experience in the area of sports medicine				
1.18	Identify common and appropriate dress/attire for sports medicine				
1.19	Identify common and appropriate professional organizations in sports medicine				
1.20	Identify and research appropriate post-secondary programs in sports medicine				
1.21	Research and list entrance and requirements to complete a post-secondary program, certification or license in sports medicine				
1.22	Research and review a variety of medical facilities, clinics, sports facilities, and other physical environments in sports medicine				
2.1	**Legal**				
2.11	Describe the legal and ethical standards of caring for individuals				
2.12	Understand the scope and importance of confidentiality				
2.13	Identify local, state, and national regulations and laws pertaining to working with patients and records				
2.14	Identify current and emerging legal issues for team physicians, athletic trainers, physical therapists and other occupations related to sports medicine				
2.15	Identify liability issues regarding high school teams and employees in sports medicine				
2.16	Locate reputable resources online and in print that offer guidance on legal rights and best practices				

2.17	Research and identify various malpractice or court cases that relate to sports medicine				
2.18	Research and identify required insurance, coverage, or legal obligations in sports medicine				
3.1	**Human Body**				
3.11	Explain and demonstrate the basic knowledge human body systems				
3.12	Identify directional terms, anatomical planes, and body positions				
3.13	Explore how the human body systems work together and function efficiently				
3.14	Explore how the human body systems can fail and how these can relate to sports activities				
3.15	Explore how foreign substances can affect how the human body systems work together and function				
4.1	**Patient Care**				
4.11	Identify and demonstrate standards of practice				
4.12	Identify and demonstrate standards of professional performance				
4.13	Demonstrate effective communication (verbally and non-verbally)				
4.14	Understand how accurate observations, recording, and reporting are critical to effective care				
4.15	Recognize individual and cultural differences				
4.16	Recognize reaction to illness, infections and disability				
4.17	Recognize developmental changes across the lifespan				
4.18	Observe a professional in sports medicine providing appropriate or exemplary patient care				
4.19	Interview a professional in sports medicine about patient care and write a report				
5.1	**Examination**				
5.11	Identify and determine appropriate tests and measurements for a variety of client types				
5.12	Describe how to examine patients/clients by obtaining a history from them and from other sources				
5.13	Describe how to examine by performing systems reviews				
5.14	Describe how to examine patients/clients by selecting and administering culturally appropriate and age related tests and measures				
5.15	Evaluate data from the examination to make initial judgment regarding a fictitious client				
5.16	Identify and describe various types of record reading and keeping associated with sports medicine examination (Clinic vs. On-field)				
5.17	Identify and describe procedures for dealing with routine check-up, suspected injury and emergency situations				
5.18	Observe a professional in sports medicine give or walk through the steps of an examination				
5.19	Discuss with a professional in sports medicine on the various types of examinations and where they are appropriate				
5.20	Research how on-field and clinical examinations vary and write a report				
5.21	Observe a professional in sports medicine demonstrate a specific technique, application, or safety protocol				
5.22	Research and develop a risk evaluation tool				
5.23	Attend a sporting event and observe the use of sports medicine, professional duties, activities, and interaction with athletes				
6.1	**Intervention and Rehabilitation**				
6.11	Observe a professional in sports medicine provide or demonstrate an intervention (pre-cautionary, suspected injury, emergency)				
6.12	Observe a professional in sports medicine demonstrate a variety of rehabilitation techniques				
6.13	Research the processes used by the sports medicine professional and create a detailed description of the process with accompanying records				
6.14	Travel to a local sports medicine facility to view and identify various tools, machines, kits, and accessories used in sports medicine				
6.15	Research and identify emerging tools, accessories, and equipment used for injury prevention (on-field and clinical)				
6.16	Research and identify emerging tools, accessories, and equipment used for rehabilitation				
6.17	Research and identify emerging skills and techniques used for injury prevention				
6.18	Research and identify emerging skills and techniques used for rehabilitation				
6.19	Attend a sporting event and observe the use of intervention and rehabilitation if any occurs				
7.1	**Modalities**				
7.11	Research and identify a variety of applications of superficial heat, cold and other modalities				
7.12	Identify and describe several forms of therapeutic massage used in a variety of situations within sports medicine				
7.13	Identify other therapeutic modalities available to the sports medicine and how they might be used				
8.1	**Patient Records**				
8.11	Observe a professional in sports medicine complete or demonstrate the use of their patient records				
8.12	Demonstrate mastery in recording, note booking, record completion, and visual records				
8.13	Identify and explore a variety of techniques used for on-field record keeping (electronic, audio, short hand, assistant, applications, smart phone)				

		3	2	1	0
8.14	Observe a professional in sports medicine use electronic record keeping systems or forms				
8.15	Discuss with a professional in sports medicine how they work with other health care professionals' records, orders, and releases				
9.1	**Safety**				
9.11	Identify possible accident prevention and appropriate proper safety techniques				
9.12	Demonstrate standard safety procedures including, but not limited to, equipment and environment				
9.13	Research and identify local, state and nation safety requirements and recommendations				
9.14	Demonstrate proper personal safety techniques				
9.15	Discuss with a professional in sports medicine how they deal with safety in an on-field and clinical setting				
10.1	**Literature and Research**				
10.11	Demonstrate understanding of different types of professional publications (including, but not limited to, peer reviewed journals)				
10.12	Demonstrate mastery in citing professional sources when writing research reports				
10.13	Demonstrate understanding of the importance of ethical acknowledgement of professionals' intellectual property				
10.14	Demonstrate mastery of data analysis (including, but not limited to, data reports such as charts and graphs)				
10.15	Demonstrate mastery of medical calculations (including, but not limited to measurement, conversion, percentages, fractions, decimals and formulas)				
	<u>Total:</u>				

14102 – Human Body Systems (1 Credit)

		3	2	1	0
1.1	**Body Systems**				
1.11	Explain the functions of the different human body systems and list the major organs within each system.				
1.12	Describe the structure and function of the organs in the digestive system.				
1.13	Describe the structure of the respiratory system, especially the lungs, and the basic mechanics of breathing.				
1.14	Explain the basic structure and function of the skeletal system.				
1.15	Describe the structure and function of the human urinary system.				
1.16	Outline the structure and function of the central nervous system.				
1.17	List and describe the human body systems that create, process and distribute food, water and oxygen.				
1.18	Identify the body's major arteries and veins and name the body region supplied by each.				
1.19	Describe the structure and function of human skin.				
2.1	**System Details**				
2.11	Identify the body's major arteries and veins and name the body region supplied by each.				
2.12	Describe how the three types of muscle tissue differ in structure and function.				
2.13	Describe how the types of joints found in the human body differ in both structure and function.				
2.14	Demonstrate the meaning of terms that describe the motion at joints, such as flexion and extension.				
2.15	Describe the differences in the appearance of epithelial and connective tissue.				
2.16	Define Biometrics.				
2.17	Summarize the roles of ions in creating electrical impulses in the human body.				
2.18	Differentiate between endocrine and exocrine glands as well as protein/peptide and steroid hormones.				
2.19	Explain visual perception, including visual acuity, depth perception, peripheral vision, color vision, and the interpretation of optical illusions.				
2.20	Describe how the structure of the kidney relates to its function in the body.				
2.21	Illustrate the composition of normal blood and normal urine.				
3.1	**System Functions**				
3.11	Describe how the structure of DNA is linked to function in the body.				
3.12	Correctly predicts how electrical signals are created and transmitted in the human body.				
3.13	Explain how neurotransmitters help propagate electrical impulses.				
3.14	Differentiate between endocrine and exocrine glands as well as protein/peptide and steroid hormones.				
3.15	Illustrate how the structure of the eye focuses light on the retina.				
3.16	List and describe the human body systems that create, process and distribute food, water and oxygen.				
3.17	Explain how energy is stored in ATP and how energy is released from ATP.				

		3	2	1	0
3.18	Explain how the body uses hormones to maintain a water balance.				
3.19	Describe the requirements for muscle contraction.				
3.20	Define pulse and blood pressure and name and locate several pulse points on the body.				
3.21	Describe the ways in which the human body can generate ATP as well as how long the energy will last in each case.				
3.22	Describe how the human body senses and processes signals of pain.				
3.23	Compare the structure and function of compact and spongy bone.				
3.24	Explain how the systems work together to maintain homeostasis in the body and to complete basic functions such as movement and communication.				
4.1	System Interactions				
4.11	Describe how multiple body systems are interconnected and how those interconnections and interactions are necessary for life.				
4.12	Describe how the eye and the brain work together to allow a person to see.				
4.13	Describe the way in which hormones interact with target cells.				
4.14	Explain how restriction enzymes cut DNA.				
4.15	Infers how the calories consumed in daily diets versus the calories expended in daily activities affect overall health.				
4.16	Illustrates how the structure of the lungs facilitates the exchange of oxygen and carbon dioxide between air and the body.				
4.17	Analyzes the process through which the respiratory and cardiovascular systems facilities the transport of oxygen to all cells in the body.				
4.18	Illustrate the connection between nerves and muscles.				
4.19	Explain the relationship between the heart and the lungs and trace the path of major circulatory routes.				
4.20	Describe the interaction between antigens and antibodies.				
5.1	System Information				
5.11	Describe how bone markings, bone landmarks and bone measurements can provide information about gender, race, ethnicity and height of a missing person.				
5.12	Identifies how gel electrophoresis results can help solve a missing persons' case.				
5.13	Summarize the techniques scientists use to map brain function.				
6.1	Aging & Trauma				
6.11	Outline what happens to bone structure as we age.				
6.12	Describe the types of bone fractures.				
6.13	Explain how different degrees of burns damage layers of the skin				
6.14	Deduce the factors, both environmental and personal that can impact the body's ability to survive with limited fuel.				
6.15	Predict how long the body can function in the absence of water, food or oxygen.				
	Total:				

14103 – Medical Imaging A (.5 Credit)

		3	2	1	0
1.1	Introduction				
1.11	Describe the three basic areas of Medical/Diagnostic Imaging				
1.12	Define Radiology and common imaging devices used within the area				
1.13	Define Nuclear Medicine and types of computer technologies				
1.14	Define Ultrasound and various procedures performed				
1.15	Identify common situations medical imagining would be used in health related fields				
2.1	Academics				
2.11	Identify the medical calculations needed to perform various duties in several fields of imaging				
2.12	Identify common terms and vocabulary used in medical imaging				
2.13	Identify and demonstrate correct term spelling, coding, notebooks, records, and reports				
3.1	Technical Skills				
3.11	Determine and discuss the basic process for x-rays and how they are used				
3.12	Determine and discuss the basic process for magnetic resonance imaging and how it is used				
3.13	Determine and discuss the basic process for ultrasonography (ultrasound) and how it is used				
3.14	Determine and discuss the basic process for endoscopy and how it is used				
3.15	Identify internal structures hidden by the skin and bones				

		3	2	1	0
3.16	Identify various visual representations of the interior of a body used for clinical analysis				
3.17	Explain the role of infection control within diagnostic imaging				
3.18	Identify and describe common illnesses, trauma, and conditions identified with medical imaging				
4.1	**Human Body**				
4.11	Identify directional terms, anatomical planes and body position				
4.12	Identify body cavities and their major organs				
4.13	Describe the structure and function of the organs in the digestive system.				
4.14	Describe the structure of the respiratory system, especially the lungs, and the basic mechanics of breathing.				
4.15	Explain the basic structure and function of the skeletal system.				
4.16	Identify the body's major arteries and veins and name the body region supplied by each.				
5.1	**Legal**				
5.11	Describe the importance of patient confidentiality within the diagnostic imaging services				
6.1	**Safety**				
6.11	Identify appropriate safety precautions taken by health care workers while working in each imaging department				
6.12	Identify common patient safety precautions for a variety of diagnostic procedures				
6.13	Identify common industry safety procedures and regulations				
7.1	**Career**				
7.11	Identify and discuss occupations that use medical/diagnostic imaging				
7.12	Determine and discuss occupations in medical/diagnostic imaging				
7.13	Describe the job responsibilities of a radiologist				
7.14	Describe the job responsibilities of a ultrasound technician				
7.15	Describe the job responsibilities of a MRI technician				
7.16	Identify regional businesses that use medical/diagnostic imaging				
	<u>Total:</u>				

14104 – Phlebotomy Technician (.5 Credit)

		3	2	1	0
1.1	**Use Verbal And Written Communications**				
1.11	Identify and use various forms of communication				
1.12	Identify barriers to communication				
1.13	Use basic medical terminology and approved abbreviations				
1.14	Demonstrate basic computer skills				
1.15	Properly identify patients				
1.16	Assist with explaining activities to patient				
1.17	Demonstrate effective teamwork as a member of the healthcare tea				
1.2	**Demonstrate Accepted Professional Communications And Interpersonal Skills**				
1.21	Recognize appropriate, effective, and professional behavior				
1.22	Communicate appropriately with the patients and members of the healthcare team				
1.23	Explain, to the patient, the procedure to be used in specimen collection				
1.24	Maintain acceptable appearance, grooming, and personal hygiene (professionalism)				
1.3	**Demonstrate Employability Skills**				
1.31	Assemble documents that may be required when applying for a job				
1.32	Complete an employment application correctly				
1.33	Identify acceptable interview techniques				
1.34	Identify or demonstrate appropriate responses to criticism from employer, supervisor, or others				
1.35	Identify and practice acceptable work habits and responsibilities				
2.1	**Demonstrate And Understand All Legal Issues In The Healthcare Setting**				
2.11	Explain the policies of patient rights and responsibilities				

2.12	Describe appropriate and legal use of the patients medical records				
2.13	Demonstrate understanding of ethical behavior, professional liability, legal aspects, and the importance of following protocol and chain of command				
2.2	**Discuss Phlebotomy In Relation To The Health Care Setting**				
2.21	List, classify, and discuss various departments and services within the healthcare setting in which the phlebotomist must interact to obtain laboratory specimens from patients				
2.22	Identify the major departments/sections within the clinical laboratory, the major types of procedures run in each department/section and their specimen requirements				
2.23	Describe roles of the major classifications of clinical laboratory personnel				
2.24	Describe the phlebotomist's role and responsibilities in problem-solving situations (for example: problem draws, when to call the lab)				
2.25	Identify phlebotomy procedures that may change from facility to facility				
2.26	Identify and describe jobs where a Phlebotomy Technician certification is needed				
2.27	Identify and describe job opportunities that a Phlebotomy Technician certification can lead to				
3.1	**Basic Math Skills**				
3.11	Make and use measurements in both traditional and metric units				
3.12	Convert from regular time to 24-hour time (military time)				
3.2	**Basic Science Skills**				
3.21	Demonstrate knowledge of the organizational levels of the human body				
3.3	**Identify The Anatomic Structure And Function Of Body Systems In Relation To Services Performed By The Phlebotomist**				
3.31	Describe and define the circulatory system				
3.32	Identify, with 100% accuracy, the main superficial veins used in performing venipuncture				
3.33	Identify, with 100% accuracy, the most appropriate sites for venipuncture				
3.34	Describe, with 90% accuracy, the characteristics of whole blood, serum, plasma, and the following blood components: erythrocytes, thrombocytes (platelets), and leukocytes				
3.35	Coagulation: intrinsic and extrinsic pathways, hemostasis, and fibrinolysis				
4.1	**Recognize And Identify Collection Reagents, Supplies, Equipment**				
4.11	Gather, with 100% accuracy, proper equipment needed to collect various clinical laboratory blood specimens by venipuncture				
4.12	Explain the special precautions and types of equipment needed to collect blood from a neonate				
4.13	Identify and discuss proper use of supplies used in collecting micro specimens				
4.14	Discuss, with 95% accuracy, the proper use of the various types of anticoagulants, preservatives, and gels used in blood collection and the vacuum tube color-codes for these additives				
4.15	Describe, with 90% accuracy, the types of patients' specimens that are analyzed in the clinical laboratory and the phlebotomist's role in collecting and/or transporting these specimens to the laboratory				
4.16	Define and utilize correct medical terminology and metric equipment needed for specimen collection				
4.17	Describe and perform (as permitted) uses of the centrifuge				
4.2	**Identifies And Understands Errors Before, During And After Specimen Collection That Can Cause Specimens To Be Rejected, To Give Erroneous Results, Severe Patient Complications**				
4.21	Describe, with 90% accuracy, pre-analytical errors which can occur before specimen collection				
4.22	Describe, with 90% accuracy, pre-analytical errors which can occur during specimen collection				
4.23	Describe, with 90% accuracy, pre-analytical errors which can occur after specimen collection				
5.1	**Demonstrate Skills And Knowledge Necessary To Perform Phlebotomy**				
5.11	Demonstrate skills and knowledge necessary to perform phlebotomy				
5.12	Discuss and perform, with 100% accuracy, methods for facilitating venipuncture collection and capillary collection				
5.13	List, with 100% accuracy, appropriate antiseptic agents useful in preparing sites for venipuncture/capillary puncture				
5.14	Perform, with 100% accuracy, appropriate methods for preparing a site for venipuncture and capillary collection, including choosing the best site				
5.15	Perform venipuncture by evacuated tube system, syringe, and winged infusion set (butterfly). Demonstrating appropriate use of supplies, proper handling of equipment and specimens, and patient care				
5.16	Describe, with 100% accuracy, the correct order of draw during venipuncture and capillary collection				
5.17	Demonstrate skills and knowledge necessary to perform phlebotomy for special procedures/complications				
	<u>Total:</u>				

14105 – Medical Interventions (1 Credit)

	3	2	1	0
See Biomedical Pathway 14.0501 for Competencies				
http://www.ksde.org/Portals/0/CSAS/Content%20Area%20(M-Z)/Science,%20Technology,%20Engineering%20and%20Mathematics%20(STEM)/BioMedical%20Design%20%202012-1-13.pdf				

14149 – Medical Imaging B (1 Credit)

		3	2	1	0
1.1	Introduction				
1.11	Describe the three basic areas of Medical/Diagnostic Imaging				
1.12	Define Radiology and common imaging devices used within the area				
1.13	Define Nuclear Medicine and types of computer technologies				
1.14	Define Ultrasound and various procedures performed				
1.15	Identify common situations medical imagining would be used in health related fields				
1.16	Research latest technological advancements within medical imaging				
2.1	Academics				
2.11	Identify the medical calculations needed to perform various duties in several fields of imaging				
2.12	Identify common terms and vocabulary used in medical imaging				
2.13	Identify and demonstrate correct term spelling, coding, notebooks, records, and reports				
2.14	Identify academic requirements for a Radiologic Technologist program				
3.1	Technical Skills				
3.11	Determine and discuss the basic process for x-rays and how they are used				
3.12	Determine and discuss the basic process for magnetic resonance imaging and how it is used				
3.13	Determine and discuss the basic process for ultrasonography (ultrasound) and how it is used				
3.14	Determine and discuss the basic process for endoscopy and how it is used				
3.15	Determine and discuss the basic process for nuclear medicine functional imaging and how it is used				
3.16	Determine and discuss the basic process for thermography and how it is used				
3.17	Determine and discuss the basic process for electroencephalography (EEG) and electrocardiography (EKG) and how they are used				
3.18	Identify internal structures hidden by the skin and bones				
3.19	Identify various visual representations of the interior of a body used for clinical analysis				
3.20	Explain the role of infection control within diagnostic imaging				
3.21	Identify and describe common illnesses, trauma, and conditions identified with medical imaging				
3.22	Identify and describe common uses of ultrasound in relation to pediatrics				
3.23	Explain the process of film development				
3.24	Describe the process for how the films are studied and stored				
3.25	Perform basic record keeping and written records commonly found with patient data				
3.26	Describe what interventional radiology is and common procedures performed within this area				
3.27	Explain the process of a "time out" and the importance of completing it				
4.1	Human Body				
4.11	Identify directional terms, anatomical planes and body position				
4.12	Identify body cavities and their major organs				
4.13	Describe the structure and function of the organs in the digestive system.				
4.14	Describe the structure of the respiratory system, especially the lungs, and the basic mechanics of breathing.				
4.15	Explain the basic structure and function of the skeletal system.				
4.16	Describe the structure and function of the human urinary system.				
4.17	Outline the structure and function of the central nervous system.				
4.18	Identify the body's major arteries and veins and name the body region supplied by each.				
5.1	Legal				

		3	2	1	0
5.11	Describe the importance of patient confidentiality within the diagnostic imaging services				
6.1	**Safety**				
6.11	Identify appropriate safety precautions taken by health care workers while working in each imaging department				
6.12	Identify common patient safety precautions for a variety of diagnostic procedures				
6.13	Identify common industry safety procedures and regulations				
6.14	Identify protective clothing used by Diagnostic Imaging staff and patients				
7.1	**Career**				
7.11	Identify and discuss occupations that use medical/diagnostic imaging				
7.12	Determine and discuss occupations in medical/diagnostic imaging				
7.13	Describe the job responsibilities of a radiologist				
7.14	Describe the job responsibilities of a ultrasound technician				
7.15	Describe the job responsibilities of a MRI technician				
7.16	Identify regional businesses that use medical/diagnostic imaging				
7.17	Identify who the appropriate person is to interpret films				
	<u>Total:</u>				

14154 – Medical Terminology A (.5 Credit)

Term Analysis		3	2	1	0
1.1	**Introduction to Terms**				
1.11	Identify word parts: root, prefix, suffix				
1.12	Identify combining vowels and proper combining forms				
1.13	Use word elements to analyze and determine the meaning of the term				
1.14	Apply correct pronunciation to medical terms				
1.15	Demonstrate proper use of rules when changing singular terms into plural forms				
2.1	**Correct Use of Terms**				
2.11	Identify word roots and their relationship to specific body systems and/or anatomical structure				
2.12	Identify common prefixes and suffixes				
2.13	Demonstrate correct spelling of similarly pronounced terms				
3.1	**Body Organization**				
3.11	Analyze the organization of the body				
3.12	Identify directional terms, anatomical planes and body position				
3.13	Identify body cavities and their major organs				
4.1	**Essential Communication**				
4.11	Identify common abbreviations				
4.12	Recognize color and number word parts				
4.13	Use word parts to describe procedures and/or techniques				
	<u>Total:</u>				

14157 – Health Information (1 Credit)

History:		3	2	1	0
1.1	**Health Information Systems/Technology (HIT)**				
1.11	Describe historical management / collection of health data				
1.12	Discuss importance of key legislation in development of HIT				
1.13	Discuss major concepts of HIT (meaningful use, principles of usability and design, clinical decision support (CDS) systems, workflow analysis, and process redesign)				
1.14	Discuss how HIT involves both technology and business aspects of healthcare				
1.15	Identify the importance of HIT in daily business transactions, billing, ordering, patient information, personnel, and other factors in health care.				

1.16	Identify the importance of HIT in daily IT/Computing requirements for billing, ordering, patient information, personnel, and other factors in health care.				
1.17	Identify careers in HIT relating to health, business & IT				
1.18	Identify local, regional and national business and industry types related to Health Information (HIT)				
1.19	Identify and discuss employment outlook, average wage/salary, and educational/certification requirements for employment				
1.2	**Healthcare Roles, Environments, and Settings for HIT**				
1.21	Discuss roles of healthcare professionals and health information technologists				
1.22	Compare major types and functions of different healthcare settings				
1.23	Describe the composition and roles of the multidisciplinary healthcare team in different healthcare settings				
1.24	Describe principles for collection and maintenance of health data within different healthcare settings				
1.25	Identify and describe the business environment of a health care business and how it relates to HIT				
1.26	Identify and describe the IT/Computing environment of a health care business and how it relates to HIT				
1.27	Identify appropriate attire, conduct and interaction for HIT professionals				
Records:					
2.1	**Electronic Health Record (EHR) and Impact on Healthcare**				
2.11	Identify factors affecting need for EHR in different healthcare settings				
2.12	Define purpose of and functional requirements for EHR				
2.13	Discuss key issues in EHR development and implementation				
2.14	Identify and discuss various EHR systems				
2.15	Identify and discuss various EHR forms, documents, and recording options				
2.16	Identify and demonstrate the use of sample EHR systems				
2.17	Identify and demonstrate the use of sample case studies and EHRs				
Regulations:					
3.1	**Healthcare Regulations, Ethical, and Cultural Issues**				
3.11	Discuss privacy, confidentiality, security issues, and related legal standards				
3.12	Analyze federal and state regulations related to privacy and quality of care				
3.13	Discuss major ethical and cultural issues in healthcare				
3.14	Describe methods to ensure data security and confidentiality				
3.15	Identify and describe the role of a professional code of ethics in HIT				
Communication:					
4.1	**Professional Communication in Healthcare Environment**				
4.11	Apply fundamentals of teamwork, leadership, and professional behaviors				
4.12	Practice problem-solving processes and collaboration within work teams				
4.13	Practice effective communication techniques: written communication, prepared speaking, active listening, body language / nonverbal communication				
4.14	Demonstrate cooperative behaviors to contribute to team success				
4.15	Identify and discuss common communication methods within healthcare				
4.16	Identify and discuss common communication procedures and processes within healthcare				
4.17	Identify and discuss professionalism in the workplace				
4.18	Identify and discuss chain of command in the workplace				
4.2	**Medical Terminology in Healthcare**				
4.21	Define core principles of medical terminology: word roots, combining forms, prefixes, suffixes, eponyms, and modern language				
4.22	Practice building, spelling, pronouncing, and analyzing common medical terms				
4.23	Define and correctly pronounce medical terms associated with each body system				
4.24	Describe, define, and correctly pronounce common diseases and conditions, laboratory and diagnostic procedures, medical and surgical procedures, and medications				
4.25	Define common terms, acronyms, and abbreviations use in HIT				
Business & Information Technology:					
5.1	**Computer Science Principles in Healthcare Systems**				
5.11	Describe hardware and software options for computer and server systems in healthcare environment				
5.12	Examine online healthcare applications and discuss associated security and privacy issues				
5.13	Examine examples of application software and the elements that comprise them, focusing on healthcare systems				
5.14	Define and describe functions of operating systems and the usage of file systems				

		3	2	1	0
5.15	Define and describe the different types of programming languages				
5.16	Define and describe the functions and different types of databases				
5.17	Define and describe the various types of network communications and network addressing				
5.18	Examine network standards and protocols within healthcare systems				
5.19	Describe safeguards against security concerns and programming for security				
5.2	**Framework & System Design**				
5.21	Define and describe and the building blocks of a large scale system				
5.22	Describe the collection, organization, and presentation of clinical data for record tracking, coding, registries, billing, imaging, and quality improvement				
5.23	Identify and explore existing local systems in EHR and HIT that regional healthcare businesses use				
5.24	Research how to integrate principles and explore the planning, design, implementation, integration, testing, evaluation, and support of healthcare information systems				
5.25	Identify and collaborate with local HIT users about the system(s), documents and uses				
5.26	Describe the process for new software development to meet a specific healthcare setting and need				
5.27	Identify local healthcare businesses that use technology for EHR & HIT				
5.3	**Future of Health Information Systems**				
5.31	Explore latest advances in computer technology related to healthcare and HIT				
5.32	Discuss implications and risks for ongoing development of HIT				
5.33	Explore employment opportunities for health information technologists in the workforce				
5.34	Identify and discuss common needs in regional healthcare and how they vary with emerging trends				
5.4	**Business**				
5.41	Identify and explore the overall functionality and importance of financial, accounting, marketing and project management within HIT				
5.42	Identify and discuss the basic needs of a health care business related to HIT and how it would relate to a business plan				
5.43	Develop and demonstrate the design and function of a health information system and what requirements are needed				
5.44	Identify regulations and restrictions businesses must follow to meet local, regional and federal requirements				
5.45	Collaborate with local/regional health care businesses that have a HIT and explore the structure, functionality, and challenges				
	Total:				

14251 – Principles of Biomedical Science (1 Credit)

		3	2	1	0
See Biomedical Pathway 14.0501 for Competencies					
	http://www.ksde.org/Portals/0/CSAS/Content%20Area%20(M-Z)/Science,%20Technology,%20Engineering%20and%20Mathematics%20(STEM)/BioMedical%20Design%20%2012-1-13.pdf				

14252 – Biotechnology I A (.5 Credit)

		3	2	1	0
1.1	**Introduction**				
1.11	Understand the scope of the biotechnology industry (which includes the production of pharmaceuticals, agricultural products, industrial products, and research instruments and reagents)				
1.12	Identify new and emerging areas of biotechnology				
1.13	Identify business and industry in the region that are related to biotechnology				
1.14	Identify common technologies used in biotechnology				
1.15	Identify the difference between cross-breeding and genetic engineering				
1.16	Identify the difference between biotechnology and genetic engineering				
1.17	Research and discuss some of the ethical issues raised by the use of genetic engineering.				
2.1	**Academics**				
2.11	Demonstrate a wide variety of measuring and common lab techniques (including but not limited to: solution calculations, data analysis, and graphing)				
2.12	Demonstrate writing and reading skills associated with biotechnology and lab environments (including but not limited to: note booking, research, recording, and findings)				
2.13	Use the scientific method to conduct a valid experiment and compose a thorough statement of results (including evidence, explanations error analysis and practical				

		3	2	1	0
	applications).				
2.14	Demonstrate an understanding of cell structure and function, focused on life cycle and characteristics of a model organism(s) used in the biotechnology industry.				
2.15	Demonstrate an understanding of DNA and RNA structure and use.				
2.16	Identify common calculations and formulas used within biotechnology				
3.1	Lab Skills				
3.11	Demonstrate competence in the applications of spectrophotometry.				
3.12	Describe and demonstrate solution preparation				
3.13	Describe and demonstrate microscopy				
3.14	Use appropriate techniques to promote cell growth and monitor maintenance of cell cultures.				
3.15	Demonstrate an understanding of DNA and RNA extraction and analysis.				
3.16	Prepare, load, run, visualize and analyze DNA samples using gel electrophoresis.				
3.17	Design and demonstrate techniques learned in project-based learning				
4.1	Careers				
4.11	Identify regional careers in biotechnology				
4.12	Identify high school certifications, post-secondary education, industry certifications, and skills needed for biotechnology as a career				
4.13	Explore the careers and college majors that support the biotechnology industry (support, research, manufacturing, quality assurance, etc.)				
5.1	Safety				
5.11	Demonstrate lab safety				
5.12	Describe and demonstrate common procedures for personal safety				
	<u>Total:</u>				

14253 – Pharmacology (1 Credit)

		3	2	1	0
1.1	Introduction				
1.11	Identify and describe pharmacology and common occupations				
1.12	Understand the scope of the pharmacology industry (which includes the production of pharmaceuticals, natural products, and man-made products)				
1.13	Identify new and emerging areas of pharmacology				
1.14	Identify business and industry in the region that are related to pharmacology				
1.15	Identify common technologies and duties used in pharmacology				
1.16	Gain understanding in the drug production and distribution process				
2.1	Types of Pharmacology				
2.11	Identify and describe clinical pharmacology and it's uses in industry				
2.12	Identify and describe neuropharmacology and it's uses in industry				
2.13	Identify and describe pharmacogenomics and it's uses in industry				
2.14	Identify and describe pharmacogenetics and it's uses in industry				
2.15	Identify and describe toxicology and it's uses in industry				
3.1	Terminology				
3.11	Identify various drug categories				
3.12	Explore the system of drug name stems				
3.13	Identify common generic vs brand drugs names				
3.14	Identify common names for medical drugs				
3.15	Identify how drug names are created and approved				
4.1	Drugs Types				
4.11	Identify various drug categories and common drugs in those categories				
4.12	Identify and recognize color and numbers for common drug types				
4.13	Determine reliable sources to identify drugs and drug type names				
4.14	Identify and describe common drug types and their effects				
4.15	Identify and describe common drug types and their side effects				

		3	2	1	0
4.16	Identify and describe common drug types that work together				
4.17	Identify and describe common drug types that do not work together				
4.18	Identify and describe illegal drug types				
5.1	Legal				
5.11	Identify the purpose of the FDA and the duties they perform				
5.12	Identify the process that drugs must go through to be developed and approved for use				
5.13	Define and describe the difference between over the counter (OTC), prescription, and narcotic drugs				
5.14	Determine the regulations that affect the production and distribution of man-made drugs				
5.15	Determine the regulations that affect the production and distribution of natural drugs				
5.16	Determine the regulations that affect the production and distribution of vitamins and supplements				
5.17	Identify the responsibilities and liabilities of a pharmacist preparing and filling prescriptions				
5.18	Identify the responsibilities and liabilities of a doctor prescribing drugs				
5.19	Define and describe the illegal use of legal drugs				
6.1	Careers				
6.11	Identify careers in which pharmacology is used				
6.12	Determine local business and industry that employ pharmacology related occupations				
6.13	Research and determine certifications, degrees, skills, and post-secondary institutions for pharmacology				
6.14	Collaborate with local pharmacology agencies/companies to gain real-world experience in pharmacology				
6.15	Identify code of ethics for individuals in the field of pharmacology				
7.1	Safety				
7.11	Identify basic personal safety in pharmacology				
7.12	Determine safety standards and procedures commonly used in pharmacology				
7.13	Determine safety standards and procedures commonly used by pharmacists				
7.14	Determine safety standards and procedures commonly used by doctors and nurses				
7.15	List common safety rules and practices for the use of various legal drugs				
8.1	Academic				
8.11	Demonstrate a wide variety of measuring and common mathematical techniques in pharmacology (including but not limited to: calculations, data analysis, and graphing)				
8.12	Demonstrate writing and reading skills associated with pharmacology and lab environments (including but not limited to: note booking, research, recording, and findings)				
8.13	Use the scientific method to conduct a valid experiment and compose a thorough statement of results (including evidence, explanations error analysis and practical applications).				
	Total:				

14254 – Special Health Science Topics A (.5 Credit)

		3	2	1	0
1.1	Introduction				
1.11	Understand the scope of the selected special topic to be taught.				
1.12	Identify new and emerging areas				
1.13	Identify business and industry in the region that are related				
1.14	Identify common technologies used				
1.15	Identify the core academics needed to succeed in this area				
1.16	Identify post-secondary programs that connect or relate to this area				
1.17	Research and discuss possible projects related to this area				
2.1	Academics				
2.11	Demonstrate a wide variety of measuring and common techniques (including but not limited to: solution calculations, data analysis, and graphing)				
2.12	Demonstrate writing and reading skills associated with the topic area (including but not limited to: note booking, research, recording, and findings)				
2.13	Use the scientific method to conduct a valid experiment and compose a thorough statement of results (including evidence, explanations error analysis and practical applications).				
2.14	Identify common calculations and formulas used				

3.1	Lab Skills				
3.11	Demonstrate competence in any needed lab skills				
3.12	Describe and demonstrate appropriate preparation techniques				
3.13	Design and demonstrate techniques learned in project-based learning				
4.1	Careers				
4.11	Identify regional careers in topic area				
4.12	Identify high school certifications, post-secondary education, industry certifications, and skills needed for a career in this area				
4.13	Explore the careers and college majors that support the industry (support, research, manufacturing, quality assurance, etc.)				
5.1	Safety				
5.11	Demonstrate lab safety				
5.12	Describe and demonstrate common procedures for personal safety				
	Total:				

14255 – Biomedical Innovation (1 Credit)

		3	2	1	0
See Biomedical Pathway 14.0501 for Competencies					
	http://www.ksde.org/Portals/0/CSAS/Content%20Area%20(M-Z)/Science,%20Technology,%20Engineering%20and%20Mathematics%20(STEM)/BioMedical%20Design%20%2012-1-13.pdf				

14256 – Biotechnology II (1 Credit)

		3	2	1	0
1.1	**Introduction to Biotechnology – Past & Present**				
1.11	Demonstrate an understanding of the scientific discoveries that have led to recombinant DNA technology (including but not limited to: chemistry, genetics, microbiology, fermentation)				
1.12	Use scientific method to conduct, analyze and evaluate valid experiments.				
1.13	Use a variety of methods including literature searches, library resources, databases, on-line for gathering background information, making observations and collecting and organizing data.				
2.1	**Common Organisms**				
2.11	Demonstrate an understanding of the life cycle and characteristics of model organisms used in biotechnology industries.				
2.12	Explore cell cultures; methods to monitor their growth, conditions that affect the growth, and how to induct indicator tests for common macromolecules.				
3.1	**Plant Biotechnology**				
3.11	Demonstrate an understanding of plant biotechnology that includes sexual reproduction in plants, meiosis and genetic changes that may occur (including: crossing over, recombination, segregation) and germination and plant growth.				
3.12	Conduct seed germination experiments and analyze the results of a cross and the significance of the data.				
3.13	Demonstrate an understanding of plant tissue culture, the hormones involved and techniques used.				
4.1	**Products to Market**				
4.11	Explain the steps in product production, recovery and purification used in bringing products to market.				
4.12	Explain the use of polyacrylamide gel electrophoresis in the analysis of proteins.				
4.13	Describe how to harvest protein from fermentation cell cultures, test for the presence of proteins and the role of buffer exchange and dialysis in protein processing.				
4.14	Compare and contrast gel filtration, ion exchange and affinity chromatography when isolating proteins.				
4.15	Summarize the steps in clinical testing and FDA approval for new drugs produced through genetic engineering				
5.1	**DNA Sequencing and Genomics**				
5.11	Copy DNA using PCR				
5.12	Discuss the application of PCR technology in industry, research and society				
5.13	Explain basic steps of a DNA sequencing reaction.				
6.1	**Pharmaceuticals**				
6.11	Compare pharmaceutical production recombinant DNA technology.				

		3	2	1	0
6.12	Demonstrate an understanding of techniques used in analyzing samples for purity (including but not limited to: melting point determinations, mass spectrophotometry, and HPLC).				
7.1	**Bioethics, Communication and Decision Making**				
7.11	Explore examples where biotechnology is used in a variety of applications (such as medical, agricultural, environmental and industrial applications as well as social or political situations, criminal investigations, lawsuits, evolutionary studies, etc)				
7.12	Compare and contrast the rights, interests and responsibilities of people involved in biotechnology development and use to the need for and function of regulatory agencies.				
7.13	Apply content and skills in educational and industrial opportunities.				
8.1	**Careers**				
8.11	Identify careers in biotechnology				
8.12	Identify high school certifications, post-secondary education, industry certifications, and skills needed for biotechnology as a career				
8.13	Explore the careers and college majors that support the biotechnology industry (support, research, manufacturing, quality assurance, etc.)				
9.1	**Safety**				
9.11	Demonstrate lab safety				
9.12	Describe and demonstrate common procedures for personal safety				
10.1	**Academics**				
10.11	Demonstrate a wide variety of measuring and common lab techniques (including but not limited to: solution calculations, data analysis, and graphing)				
10.12	Demonstrate writing and reading skills associated with biotechnology and lab environments (including but not limited to: note booking, research, recording, and findings)				
	<u>Total:</u>				

14997 – Certified Nursing Assistant (.5 Credit)

CNA		3	2	1	0
1.1	**Introduction**				
1.11	Discuss the role and expectation of the CNA in relationship to the resident and his/her family, the health team, and the facility. (including how the CNA promotes the resident's right to dignity and privacy, and encourages independence).				
1.12	Understand legal and ethical aspects of working as a CNA including issues related to negligence and neglect as well as abuse and exploitation of seniors.				
1.13	Compare and contrast Maslow's Hierarchy of needs and how a caregiver can assist in meeting those needs				
1.14	Demonstrate a basic understanding of the aging process and positive and negative attitudes about aging that may influence a caregiver.				
1.15	Explain how the CNA is part of an inter-disciplinary team that develops and implements the resident's care plan under the Federal Nursing Home Reform Act (OBRA 87)				
1.16	Discuss how an adult care facility is organized and how the different departments are interdependent to provide a team approach to provide appropriate care.				
1.17	Identify and describe jobs where a CNA certification is needed				
1.18	Identify and describe job opportunities that a CNA certification can lead to				
2.1	**Skills and Duties**				
2.11	Understand the CNA role related to the resident's nutrition and fluids and how to be part of the team that provides and assists residents concerning diet during meals and through the day.				
2.12	Understand what behaviors limit and prevent the spread of an infection and blood borne pathogens. (CDCs Standard Precautions and effective hand washing)				
2.13	Applies good body mechanics to tasks related to care of clients.				
2.14	Demonstrate the ability to accurately measure and record I & O (input and output)				
2.15	Accurately take vital signs (temperature, pulse, respirations, blood pressure, weight, height and record using correct medical terminology.				
2.16	Describe what, when and to whom observations about the resident should be reported and how should they be documented.				
2.17	Demonstrates behaviors that promote rest and sleep as well as documents and reports when pain is limiting the resident's comfort.				
2.18	Discuss the grieving process and how the CNA can respect and support the resident and family.				
2.19	Explain the role and appropriate behaviors when a resident is receiving nutrition with an IV infusion and/or feeding tubes				
2.20	Identifies different types of catheters, ostomies and appropriate care and maintenance of each kind.				
2.21	Discusses "restorative care" and its goals.				
2.22	Discusses how rehabilitation by specialized therapies may support the restorative care plan.				
2.23	Explains how the CNA may assist in the restorative care plan and assist in preventing consequences related to inactivity.				
2.24	Discusses dementia and problem behaviors and the CNA role in meeting the resident's needs related to them.				
2.25	Describe how to provide additional resident care procedures (including but not limited to: applying heat or cold, oxygen delivery, elastic stockings, specimen collection,				

		3	2	1	0
	restraints)				
2.26	Describe the actions the CNA may perform when assisting with admission, transfer and discharge of a resident.				
2.27	Demonstrate how to respond and apply first aid to different scenarios that may occur in the work place.				
3.1	**Safety**				
3.11	Demonstrate safe practices when assisting in resident's mobility (including: mechanical lifting devices, transfer belts, walkers, wheel chairs, devices to assist in maintaining body alignment and cue's to the patient to assist)				
3.12	Identify conditions that may cause issues with resident safety as well as ways to prevent unsafe situations (examples: food temperatures, avoiding falls, electrical accidents, chemical hazards, choking, Heimlich Maneuver, oxygen use, fire emergency, weather emergency)				
3.13	Demonstrate how to safely assist a resident concerning elimination				
4.1	**Clients**				
4.11	Demonstrates an understanding of how to respect the resident's control over his or her own living space and care for furnishing (including daily maintenance and bed making)				
4.12	Demonstrate effective communication with the residents (including understanding of verbal and nonverbal communication, listening vs. hearing and barriers to the exchange)				
4.13	Identify psycho-social losses that may occur with aging or disability and how they can be addressed in the facility.				
4.14	Demonstrates skills related to the resident's personal care and grooming and provide for safety, privacy and personal choice (including: oral hygiene, skin care, bathing/ showering, bed bath, dressing, shampooing and hair care, nail care, beard and shaving)				
4.15	Understand basic structure and function of the digestive system and how poor diet may impact the overall health of the resident. Additionally understand how increasing physical impairment may also affect the resident's ability to eat and digest food.				
4.16	Explore the physical changes in different body systems that occur as a person ages and some of the diseases and disorders that may affect the system.				
4.17	Understands that sexuality is a basic human need and describe how the CNA's role supports and protects the resident's sexual expression.				
4.18	Understands families' and residents' views of end-of-life issues are diverse and may include health care advanced directives, living will, DNR, and hospice).				
4.19	Explain the role and care the CNA has in supporting the dying resident and family including postmortem care.				
	Total:				

21205 – Project Management & Resource Scheduling (1 Credit)

		3	2	1	0
	See Biomedical Pathway 14.0501 for Competencies	3	2	1	0
	http://www.ksde.org/Portals/0/CSAS/Content%20Area%20(M-Z)/Science,%20Technology,%20Engineering%20and%20Mathematics%20(STEM)/BioMedical%20Design%20%202012-1-13.pdf				

36053 – Home Health Aide (.5 Credit)

		3	2	1	0
1.1	**Introduction**				
1.11	Describe and define Home Health Care and the Home Health Care Team				
1.12	Identify needs that children clients may have and how the home health worker can support meeting those needs				
1.13	Identify needs that aging adults clients may have and how the home health worker can support meeting those needs				
1.14	Identify needs that clients with mental health issues may have and how the home health worker can support meeting those needs				
1.15	Identify needs that clients with developmental challenges may have and how the home health worker can support meeting those needs				
1.16	Identify needs that clients with physical disabilities may have and how the home health worker can support meeting those needs				
1.17	Describe and demonstrate the responsibility for the health care worker's health and management of a job including professionalism				
1.18	Identify and describe jobs where a Home Health Aide certification is needed				
1.19	Identify and describe job opportunities that a Home Health Aide certification can lead to				
2.1	**Legal**				
2.11	Describe the legal and ethical standards of caring for individuals in the home				
3.1	**Home Health Skills**				
3.11	Explain and demonstrate the basic knowledge and procedures required to master prior to working in the home health setting				
3.12	Describe and demonstrate adaptive effective body mechanics when performing ADL tasks in the home care setting				

		3	2	1	0
3.13	Describe and demonstrate ability to provide a client with basic nutrition in a home health setting				
3.14	Identify and demonstrate procedures relating to infection control practices in the home health setting				
4.1	**Human Body**				
4.11	Describe the human body systems and common disease processes seen in the home health care setting				
4.12	Describe the difference between chronic and acute disease processes				
5.1	**Safety**				
5.11	Prevent accidents by using proper safety techniques for the prevention of accidents				
5.12	Identify and demonstrated skills mastering emergency care				
5.13	Identify and demonstrated skills mastering disaster preparedness				
5.14	Identify and demonstrated skills mastering safety in the home health setting				
6.1	**State Requirements**				
6.11	Meet all state requirements for Home Health Aide certification and training				
6.12	Meet any requirements for Home Health Aide to work in the state of Kansas and identify other requirements in neighboring states.				
	<u>Total:</u>				

36055 – **Emergency Medical Technology (1 Credit)** (*non-certifying EMT course*)

		3	2	1	0
1.1	**Introduction**				
1.11	Define and describe emergency medical technology				
1.12	Identify careers in emergency medical technology				
1.13	Identify and describe common situations where emergency medical technology is used (including first aid, first responder, emergency medical treatment)				
1.14	Identify various types of clients and how emergency medical technology can support meeting those needs (including children, aging adults, adults, and physical disabilities)				
1.15	Identify regional business that offer emergency medical technology				
1.16	Identify the education, certifications and skills needed to work in emergency medicine				
1.17	Identify the common job duties of an emergency medical technician				
1.18	List the 10 components of an EMS system				
1.19	Identify common emergencies and illnesses.				
1.20	Identify emergency procedures for first aid of emergencies.				
2.1	**Legal**				
2.11	Describe the legal and ethical standards of emergency medicine				
2.12	Understand the scope and importance of confidentiality				
2.13	Identify local, state, and national regulations and laws pertaining to working with or assisting patients and their records				
3.1	**Human Body**				
3.11	Explain and demonstrate the basic knowledge human body systems				
3.12	Identify directional terms, anatomical planes and body position				
3.13	Identify and describe the skeletal system				
3.14	Identify and describe the muscle system				
3.15	Identify and describe the circulatory system				
3.16	Discuss physiological changes that occur with aging (including; children, adults and geriatric)				
3.17	Discuss psychological changes that occur with aging (including; children, adults and geriatric)				
4.1	**Patient Care**				
4.11	Identify and demonstrate the 6 standards of practice (Assessment, Diagnosis, Outcome Identification, Planning, Implementation, and Evaluation)				
4.12	Identify and demonstrate standards of professional performance				
4.13	Demonstrate effective communication (verbally and non-verbally)				
4.14	Understand how accurate observations, recording and reporting are critical to effective care				
4.15	Recognizes individual and cultural differences				
4.16	Recognizes reaction to illness and disability				
4.17	Demonstrate proper communication techniques during interviews for various geriatric patients.				

4.18	Exhibits professional conduct				
5.1	**Patient Assessment**				
5.11	Identify and describe the techniques for assessing mental status.				
5.12	Identify and describe the techniques for assessing if the patient is breathing.				
5.13	Identify and describe the techniques for assessing if the patient has a pulse.				
5.14	Identify and describe the techniques for assessing the patient for external bleeding.				
5.15	Identify and describe the techniques for assessing the patient's skin color, temperature, condition, and capillary refill.				
5.16	Identify and determine appropriate tests and measurements for a variety of client types				
5.17	Examine patients/clients by obtaining a history from them and from other sources				
5.18	Examine patients/clients by performing systems reviews				
5.19	Demonstrate an assessment of the medical patient.				
5.20	Identify various normal and abnormal findings during a patient assessment.				
5.21	Describe the effects of shock on the body's systems.				
5.22	Describe proper techniques for assessing geriatric patients based on physiologic and psychological changes.				
5.23	Discuss various pharmacology issues related to geriatric patients.				
5.24	Discuss common medical emergencies related to geriatric patients.				
5.25	List 8 risk factors for falling.				
5.26	Describe 11 things that will happen as the body prepares to die				
5.27	Define a Do Not Resuscitate (DNR) form				
6.1	**Basic Emergency Technology**				
6.11	Identify common signs and treatment for performing first aid for fractures, dislocations, sprains, and strains				
6.12	Identify common signs and treatment for performing first aid for seizures				
6.13	Identify common signs and treatment for performing first aid for a choking victim				
6.14	Identify common signs and treatment for performing first aid for an unconscious victim				
6.15	Identify common signs and treatment for performing first aid for controlling various types bleeding				
6.16	Research and identify common technologies, resources, supplies and common items to assist in first aid				
6.17	Research and identify differences in commonly used resources in the field verses a hospital setting				
6.18	Describe the proper technique for CPR				
6.19	Describe the proper technique for use of an AED				
6.20	Identify the signs and symptoms of shock.				
6.21	Define the four mechanisms of injury due to motion.				
7.1	**Interventions**				
7.11	Identify procedures to move, position and drape a patient				
7.12	Describe and demonstrate proper oxygenation techniques for various medical patients.				
7.13	Discusses the six medications that Basic EMT's may administer.				
7.14	Discusses various dispositions available for the medical patient including priority transport, non-emergency transport and treat and release.				
7.15	Discuss the scene operations (management) of an emergency involving vehicular extrication and/or a sports related injury.				
7.16	Establish scene command during a simulated motor vehicle accident and/or a sports related injury.				
7.17	Perform inner and outer circle surveys simulating a motor vehicle accident and/or a sports related injury.				
7.18	Establish an "action circle" during a simulated motor vehicle accident and/or a sports related injury.				
7.19	Establish a tool staging area during a simulated motor vehicle accident and/or a sports related injury.				
8.1	**Safety**				
8.11	Identify possible accident prevention and appropriate proper safety techniques				
8.12	Demonstrate standard safety procedures				
8.13	Research and identify local, state and nation safety requirements				
8.14	Demonstrate proper personal safety techniques				
8.15	Accept responsibility for personal well-being and practice and follow safety guidelines.				
	Total:				

36154 – Medical Terminology B (1 Credit)

(All competencies of Medical Terminology A plus the listed below)	3	2	1	0
1.1 Introduction to Terms				
1.11 Identify word parts: root, prefix, suffix				
1.12 Identify combining vowels and proper combining forms				
1.13 Use word elements to analyze and determine the meaning of the term				
1.14 Apply correct pronunciation to medical terms				
1.15 Demonstrate proper use of rules when changing singular terms into plural forms				
2.1 Correct Use of Terms				
2.11 Identify word roots and their relationship to specific body systems and/or anatomical structure				
2.12 Identify common prefixes and suffixes				
2.13 Demonstrate correct spelling of similarly pronounced terms				
3.1 Body Organization				
3.11 Analyze the organization of the body				
3.12 Identify directional terms, anatomical planes and body position				
3.13 Identify body cavities and their major organs				
4.1 Essential Communication				
4.11 Identify common abbreviations				
4.12 Recognize color and number word parts				
4.13 Use word parts to describe procedures and/or techniques				
5.1 Body Systems				
5.11 Using correct medical terminology, describe the basic function and organization of major body systems				
5.12 Develop and demonstrate mastery of medical terminology through analysis of clinical text describing ailments within major body systems				
5.13 Develop and demonstrate mastery of medical terminology through written and oral communication describing ailments, treatments and procedures, diagnosis and prognosis				
5.14 Master anatomy as it relates to the procedural coding manual.				
5.15 Understand disease terms as they relate to the diagnostic coding manual.				
6.1 Careers				
6.11 Identify careers in which medical terminology and coding are used				
6.12 Identify how medical terminology and coding are used in regional settings				
6.13 Collaborate with local health science agencies/companies to gain real-world experience in medical terminology and coding				
Total:				

36156 – Certified Medication Aide (.5 Credit)

CMA	3	2	1	0
1.11 Describe the role and responsibility of a CMA in Kansas, including statutes and regulations, and ethical standards of conduct				
1.12 Demonstrate effective communication including: resident communication, staff communication, and written communication (documentation).				
1.13 Demonstrate proper infection control practices including standard precautions, CMA role in facility policies, hand hygiene and additional methods of infection control.				
1.14 Describe and demonstrate safety practices in relation to preparation for drug administration, administering medication, mathematics, weights and measures, and monitoring for side effects				
1.15 Describe and demonstrate safety practices in relation to forms of medication and appropriate route and techniques of administration of medications				
1.16 Describe and demonstrate safety practices in relation to drug standards, names and drug resource information				
1.17 Demonstrate Knowledge of understanding the body systems and how medication administration causes systemic side effects as well as therapeutic effects for each body system				
1.18 Demonstrate Knowledge and ability to analyze a situation involving a resident, problem solve, and appropriately involve nursing supervision regarding medication administration and side effects				
1.19 Demonstrate knowledge of understanding regarding medications and the elderly including how medication administration affect changes in cellular metabolism, presence of chronic disease, and normal aging changes				

		3	2	1	0
1.20	Identify and describe jobs where a Certified Medication Aide certification is needed				
1.21	Identify and describe job opportunities that a Certified Medication Aide certification can lead to				
2.1	**State Requirements**				
2.11	Meet all state requirements for Certified Medication Aide certification and training.				
2.12	Meet any requirements for Certified Medication Aide to work in the state of Kansas and identify other requirements in neighboring states.				
	<u>Total:</u>				

36252 – Biotechnology I B (1 Credit)

		3	2	1	0
1.1	**Introduction**				
1.11	Understand the scope of the biotechnology industry (which includes the production of pharmaceuticals, agricultural products, industrial products, and research instruments and reagents)				
1.12	Identify new and emerging areas of biotechnology				
1.13	Identify business and industry in the region that are related to biotechnology				
1.14	Identify common technologies used in biotechnology				
1.15	Identify the difference between cross-breeding and genetic engineering				
1.16	Identify the difference between biotechnology and genetic engineering				
1.17	Research and discuss some of the ethical issues raised by the use of genetic engineering.				
2.1	**Academics**				
2.11	Demonstrate a wide variety of measuring and common lab techniques (including but not limited to: solution calculations, data analysis, and graphing)				
2.12	Demonstrate writing and reading skills associated with biotechnology and lab environments (including but not limited to: note booking, research, recording, and findings)				
2.13	Use the scientific method to conduct a valid experiment and compose a thorough statement of results (including evidence, explanations error analysis and practical applications).				
2.14	Demonstrate an understanding of cell structure and function, focused on life cycle and characteristics of a model organism(s) used in the biotechnology industry.				
2.15	Demonstrate an understanding of DNA and RNA structure and use.				
2.16	Identify common calculations and formulas used within biotechnology				
2.17	Demonstrate an understanding of protein structure, function, use and analysis.				
2.18	Demonstrate an understanding of enzymes (including but limited to factors that affect their activity and how to design an enzyme activity assay).				
2.19	Identify and discuss different methods of cross-breeding plants, animals and other organisms				
3.1	**Lab Skills**				
3.11	Demonstrate competence in the applications of spectrophotometry.				
3.12	Describe and demonstrate solution preparation				
3.13	Describe and demonstrate microscopy				
3.14	Use appropriate techniques to promote cell growth and monitor maintenance of cell cultures.				
3.15	Demonstrate an understanding of DNA and RNA extraction and analysis.				
3.16	Prepare, load, run, visualize and analyze DNA samples using gel electrophoresis.				
3.17	Design and demonstrate techniques learned in project-based learning				
3.18	Use appropriate techniques to promote cell growth and monitor maintenance of cell cultures.				
3.19	Compare and contrast acids, bases, neutral solutions and how a buffer is used in the lab.				
3.20	Demonstrate understanding of techniques related to determining protein concentrations (including: serial dilutions and absorbance, standard curves, and linear regressions.)				
3.21	Demonstrate an understanding of the use of genetic engineering to create new products and study bioscience problems. (Isolation of specific genes and methods of transformation)				
4.1	**Careers**				
4.11	Identify regional careers in biotechnology				
4.12	Identify high school certifications, post-secondary education, industry certifications, and skills needed for biotechnology as a career				
4.13	Explore the careers and college majors that support the biotechnology industry (support, research, manufacturing, quality assurance, etc.)				
5.1	**Safety**				
5.11	Demonstrate lab safety				

	5.12	Describe and demonstrate common procedures for personal safety				
		<u>Total:</u>				

36254 – Special Health Science Topics B (1 Credit)

			3	2	1	0
1.1		Introduction				
1.11		Understand the scope of the selected special topic to be taught.				
1.12		Identify new and emerging areas				
1.13		Identify business and industry in the region that are related				
1.14		Identify common technologies used				
1.15		Identify the core academics needed to succeed in this area				
1.16		Identify post-secondary programs that connect or relate to this area				
1.17		Research and discuss possible projects related to this area				
2.1		Academics				
2.11		Demonstrate a wide variety of measuring and common techniques (including but not limited to: solution calculations, data analysis, and graphing)				
2.12		Demonstrate writing and reading skills associated with the topic area (including but not limited to: note booking, research, recording, and findings)				
2.13		Use the scientific method to conduct a valid experiment and compose a thorough statement of results (including evidence, explanations error analysis and practical applications).				
2.14		Identify common calculations and formulas used				
3.1		Lab Skills				
3.11		Demonstrate competence in any needed lab skills				
3.12		Describe and demonstrate appropriate preparation techniques				
3.13		Design and demonstrate techniques learned in project-based learning				
4.1		Careers				
4.11		Identify regional careers in topic area				
4.12		Identify high school certifications, post-secondary education, industry certifications, and skills needed for a career in this area				
4.13		Explore the careers and college majors that support the industry (support, research, manufacturing, quality assurance, etc.)				
5.1		Safety				
5.11		Identify and demonstrate lab/workplace safety				
5.12		Describe and demonstrate common procedures for personal safety				
6.1		Employability Skills				
6.11		Follow attendance policies of the employer or educational institution				
6.12		Accept responsibility for own actions				
6.13		Listen attentively to verbal instruction, requests, and other information to verify accuracy				
6.14		Provide written communication that is accurate and grammatically correct, using nomenclature appropriate to the environment				
6.15		Interpret technical materials used for health care practices and procedures				
6.16		Engage in continuous self-assessment and goals modification for personal and professional growth				
6.17		Manage time, prioritize responsibilities, and meet completion dates as specific by employer and client				
6.18		Show enthusiasm and commitment by meeting expectations and priorities of the organization				
6.19		Consider levels of education, credentialing requirements, employment opportunities, workplace environments, and career growth potential for a service area				
7.1		Legal				
7.11		Identify and perform duties according to regulations, policies, laws and legislated rights of clients				
7.12		Maintain clients rights according to the Patients' Bill of Rights				
7.13		Maintain confidentiality				
		<u>Total:</u>				

Communications:		3	2	1	0
2.1	**Concepts of Effective Communication**				
2.11	Reorganize and adjust communication to other's ability to understand by recognizing the barriers of communication				
2.12	Identify the elements of communication using the send-receiver model				
2.13	Demonstrate interviewing skills				
2.2	**Written Communication Skills**				
2.21	Report relevant information in order of occurrence				
2.22	Distinguish between subjective and objective information and demonstrate each				
2.23	Analyze communications for appropriate response and provide feedback				
Systems:					
3.1	**Health Care Delivery System Results**				
3.11	Summarize the interdependence of health care professions within a given health care delivery system and pertaining to the delivery of quality health care				
3.12	Design a system analysis process that evaluates the following outcomes; client satisfaction, productivity, cost effectiveness, and efficiency				
3.13	Interpret the various roles of healthcare providers and clients within the healthcare system				
3.14	Evaluate the impact of enhanced technology on the health care delivery system				
3.2	**System Change**				
3.21	Analyze the cause and effect on health care system change based on the influence of: technology, epidemiology, bio-ethics, socio-economics, and various forms of complimentary (non-traditional) medicine				
Employability Skills:					
4.1	**Key Employability Skills**				
4.11	Follow attendance policies of the employer or educational institution				
4.12	Accept responsibility for own actions				
4.2	**Interpersonal Communications**				
4.21	Listen attentively to verbal instruction, requests, and other information to verify accuracy				
4.22	Provide written communication that is accurate and grammatically correct, using nomenclature appropriate to the environment				
4.23	Interpret technical materials used for health care practices and procedures				
4.3	**Personal Growth and Development**				
4.31	Engage in continuous self-assessment and goals modification for personal and professional growth				
4.32	Manage time, prioritize responsibilities, and meet completion dates as specific by employer and client				
4.33	Show enthusiasm and commitment by meeting expectations and priorities of the organization				
4.4	**Career Decision-making**				
4.41	Explore a potential health science career path in at least one of the following health care services: diagnostic, therapeutic, support service, health informatics, or biotechnology research and development				
4.42	Consider levels of education, credentialing requirements, employment opportunities, workplace environments, and career growth potential for a service area				
Legal Responsibilities					
5.1	**Legal Implications**				
5.11	Compare and contrast behaviors and practices that could result in malpractices, liability, or negligence				
5.12	Comply with policies and requirements for documentation and record keeping				
5.13	Comply with non-discriminatory laws				
5.14	Comply with institutional policy and procedure				
5.2	**Legal Practices**				
5.21	Perform duties according to regulations, policies, laws and legislated rights of clients				
5.22	Maintain clients rights according to the Patients' Bill of Rights				
5.23	Maintain confidentiality				
5.24	Practice within licensure, certification, registration, and legislated scope of practice				
5.25	Apply the doctrine of informed consent				
5.26	Evaluate technological threats to confidentiality				
5.27	Follow mandated standards for workplace safety, i.e., OSHA, CDC, CLIA				

5.28	Apply mandated standards for harassment, labor, and employment laws				
Ethics:					
6.1	**Ethical Practice**				
6.11	Demonstrate professionalism, including honesty and integrity, when interacting with fellow students, co-workers, and other members of the health care setting				
6.12	Respect interdisciplinary roles of team members				
6.13	Report activities and behaviors by self and others that adversely affect the health, safety, or welfare of students, clients, or co-workers				
6.14	Demonstrate fairness and equal treatment of all persons				
6.15	Practice responsibility within the ethical framework of the Patients' Bill of Rights				
6.16	Value clients independence and determination				
6.2	**Cultural, Social, and Ethnic Diversity**				
6.21	Discuss the impact of religions and cultures on those giving and receiving health care with an understanding of past and present events				
Safety:					
7.1	**Personal safety**				
7.11	Manage a personal exposure incident in compliance with OSHA regulations and CDC regulations				
7.12	Apply principles of body mechanics and ergonomics				
7.2	**Environmental Safety**				
7.21	Prevent accidents by using proper safety techniques for the prevention of accidents				
7.3	**Common Safety Hazards**				
7.31	Adhere to hazardous labeling requirements				
7.32	Comply with safety signs, symbols, and labels				
7.33	Take appropriate action when observing a hazardous material problem				
7.34	Apply safety principles within given environments				
7.35	Handle hazardous chemicals commonly used in the health care environment in an appropriate manner				
Teamwork:					
8.1	**Health Care Teams**				
8.11	Apply the team concept in providing quality patient care				
8.2	**Team Member Participation**				
8.21	Communicate verbally and non-verbally with team colleagues to assure a best result for the client				
8.22	Collaborate with others to formulate team objectives				
8.23	Act responsibly as a team member, completing assigned tasks in a timely and effective manner				
8.24	Respect and value the expertise and contributions of all team members				
8.25	Work collaboratively with persons form diverse backgrounds to accomplish a common goal				
8.26	Apply corrective action to an acknowledged conflict situation				
8.27	Exhibit a strong sense of team identity and commitment to purpose				
Health Maintenance:					
9.1	**Healthy Behaviors**				
9.11	Discuss complementary/alternative health practices as they relate to wellness and disease prevention				
Technical Skills:					
10.1	**Occupational Safety**				
10.11	Obtain Cardiopulmonary Resuscitation (CPR) certification Automated External Defibrillator (AED)				
10.12	Apply skills to obtain training or certification in First Aid and Foreign Body airway Obstruction (FBAO)				
Information Technology Applications:					
11.1	**Communication Technology Health Information Management**				
11.11	Execute data management using electronic healthcare records				
11.2	**Information Technology**				
11.21	Recognize computer application currently being used in today's healthcare settings				
11.22	Recognize mobile technology currently being used in today's healthcare settings				
	<u>Total:</u>				

Academics:		3	2	1	0
1.1	Disease and Disorders				
1.11	Compare the aging process among the body systems				
Communications:					
2.1	Concepts of Effective Communication				
2.11	Reorganize and adjust communication to other's ability to understand by recognizing the barriers of communication				
2.12	Identify the elements of communication using the send-receiver model				
2.13	Apply active listening skills using reflection, restatement, and clarification techniques				
2.14	Demonstrate courtesy to others including self-introduction				
2.15	Identify and interpret verbal and non-verbal behaviors to augment communication				
2.16	Demonstrate interviewing skills				
2.17	Identify communication styles based on various healthcare scenarios				
2.2	Written Communication Skills				
2.21	Analyze communications for appropriate response and provide feedback				
2.22	Recognize, organize, write and compile technical information and summaries.				
2.23	Use medical terminology to communicate information, data and observations				
2.24	Use medical terminology within a scope of practice in order to interpret, transcribe and communicate information, data and observations				
Systems:					
3.1	Systems Theory				
3.11	Describe systems theory and its' components As it relates to the healthcare delivery system model				
3.12	Construct a general systems model using inputs, throughputs, and a feedback loop				
3.2	Health Care Delivery System				
3.21	Predict where and how factors such as: cost, managed care, technology, an aging population, access to care, alternative therapies, and lifestyle/behavior changes may affect various health care delivery system models				
3.3	Health Care Delivery System Results				
3.31	Interpret the various roles of healthcare providers and clients within the healthcare system				
3.32	Evaluate the impact of enhanced technology on the health care delivery system				
3.4	System Change				
3.41	Analyze the cause and effect on health care system change based on the influence of: technology, epidemiology, bio-ethics, socio-economics, and various forms of complimentary (non-traditional) medicine				
Employability Skills:					
4.1	Interpersonal Communications				
4.11	Communicate in a straight forward, understandable, accurate and timely manner				
4.12	Listen attentively to verbal instruction, request, and other information to verify accuracy				
4.13	Provide written communication that is accurate and grammatically correct, using nomenclature appropriate to the environment.				
4.14	Interpret technical materials used for health care practices and procedures.				
4.2	Personal Growth and Development				
4.21	Provide written communication that is accurate and grammatically correct, using nomenclature appropriate to the environment				
4.22	Interpret technical materials used for health care practices and procedures				
4.23	Show enthusiasm and commitment by meeting expectations and priorities of the organization.				
4.3	Career Decision-making				
4.31	Explore a potential health science career path in at least one of the following health care services: diagnostic, therapeutic, information, or environmental.				
4.32	Consider levels of education, credentialing requirements, employment opportunities, workplace environments, and career growth potential for a service area.				
4.33	Collect and maintain student portfolio documenting progress toward Health care career preparation.				
Legal Responsibilities					
5.1	Legal Practices				
5.11	Comply with Federal HIPPA Laws				

5.12	Perform duties according to regulations, policies, laws and legislated rights of clients				
5.13	Maintain clients rights according to the Patients' Bill of Rights				
5.14	Comply with institutional policy and procedure				
5.15	Follow mandated standards for workplace safety, i.e., OSHA, CDC, CLIA				
Ethics:					
6.1	**Legal and Ethical Boundaries**				
6.11	Differentiate between morality and ethics and the relationship of each to health care outcomes				
6.12	Differentiate between ethical and legal issues impacting health care				
6.13	Contrast personal, professional, and organizational ethics				
6.14	Analyze legal and ethical aspects of confidentiality				
6.15	Discuss bio-ethical issues related to health care				
6.16	Analyze and evaluate the implications of medical ethics				
Safety:					
7.1	**Infection Control**				
7.11	Practice infection control procedures including standard precautions				
7.12	Contrast medical and surgical asepsis				
7.2	**Personal Safety**				
7.21	Manage a personal exposure incident in compliance with OSHA regulations and CDC regulations				
7.22	Apply principles of body mechanics and ergonomics				
7.23	Apply principles of body mechanics and ergonomics				
7.3	**Environmental Safety**				
7.31	Modify the environment to create safe working conditions Evaluate and modify the environment to create and maintain safe working conditions				
7.32	Demonstrate methods of fire prevention in the health care setting				
7.33	Prevent accidents by using proper safety techniques for the prevention of accidents				
7.4	**Common Safety Hazards**				
7.41	Use Materials Safety Date Sheets (MSDS), Globally Harmonized System (GHS), and 16 section Safety Data Sheet (SDS)				
7.42	Adhere to hazardous labeling requirements				
7.43	Comply with safety signs, symbols, and labels				
7.44	Take appropriate action when observing a hazardous material problem				
7.45	Apply safety principles within given environments				
7.5	**Emergency Procedures and Protocols**				
7.51	Interpret the evacuation plan for the health care setting				
7.52	Follow the facility procedure when a fire is discovered				
Teamwork:					
8.1	**Health Care Teams**				
8.11	Apply the team concept in providing quality patient care				
8.12	Recognize characteristics of effective teams				
8.13	Analyze roles of various team participants				
8.2	**Team Member Participation**				
8.21	Collaborate with others to formulate team objectives				
8.22	Act responsibly as a team member, completing assigned tasks in a timely and effective manner				
8.23	Actively listen to other team members				
8.24	Exercise leadership skills as appropriate				
8.25	Respect and value the expertise and contributions of all team members				
8.26	Work collaboratively with persons form diverse backgrounds to accomplish a common goal				
8.27	Apply corrective action to an acknowledged conflict situation				
8.28	Exhibit a strong sense of team identity and commitment to purpose				
Health Maintenance:					
9.1	**Healthy Behaviors**				

		3	2	1	0
9.11	Apply behaviors that promote health and wellness				
9.12	Advocate available preventive health screening and examinations				
9.13	Use practices that promote the prevention of disease and injury				
9.14	Use appropriate safety practices as related to high-risk behaviors				
9.15	Discuss complementary/alternative health practices as they relate to wellness and disease prevention.				
Technical Skills:					
10.1	**Occupational Safety**				
10.11	Apply Standard Precautions as described in the rules and regulations set forth by the Occupational Safety and Health Administration (OSHA)				
10.12	Obtain Cardiopulmonary Resuscitation (CPR) certification and Automated External Defibrillator (AED) training				
10.13	Apply skills to obtain training or certification in First Aid and Foreign Body airway Obstruction (FBAO)				
Information Technology Applications:					
11.1	**Communication Technology Health Information Management**				
11.11	Use communication technology (Fax, E-mail, Internet) to access and distribute data and other information.				
11.12	Understand the content and diverse uses of health information				
11.2	**Information Technology**				
11.21	Execute the use of software, hardware, and the internet				
11.22	Recognize computer application currently being used in today's healthcare setting				
	Total:				

36993 – Health Science V (2 Credit) – *Follow Guidance of Professional Learning Experience (PLE) Toolkit*
http://www.ksde.org/LinkClick.aspx?fileticket=cSiK5bjeoRM%3d&tabid=630&portalid=0&mid=1826

Academics:		3	2	1	0
1.1	**Disease and Disorders**				
1.11	Compare selected diseases/disorders including respective classification's), causes, diagnoses, therapies, and care/rehabilitation to include biotechnological applications				
1.12	Analyze body system changes in light of diseases, disorders, and wellness				
1.13	Compare the aging process among the body systems				
1.14	Investigates biomedical therapies as they relate to the prevention, pathology, and treatment of disease				
1.15	Discuss complementary/alternative health practices as they relate to the prevention and treatment of disease				
1.2	**Medical Mathematics**				
1.21	Apply mathematical computations related to healthcare procedures				
1.22	Apply mathematical principles to conversion equations used in the healthcare delivery system				
1.23	Apply mathematical principles involving temperature, weights, and measures used in the healthcare delivery system				
1.24	Apply mathematical principles to problems involving dosage calculations and other applied mathematical concept				
1.25	Analyze diagrams, charts, graphs and tables to interpret healthcare results				
Communications:					
2.1	**Concepts of Effective Communication**				
2.11	Reorganize and adjust communication to other's ability to understand by recognizing the barriers of communication				
2.12	Identify the elements of communication using the send-receiver model				
2.13	Apply active listening skills using reflection, restatement, and clarification techniques				
2.14	Demonstrate courtesy to others including self-introduction				
2.15	Identify and interpret verbal and non-verbal behaviors to augment communication				
2.16	Demonstrate interviewing skills				
2.17	Identify communication styles based on various healthcare scenarios				
2.2	**Written Communication Skills**				
2.21	Analyze communications for appropriate response and provide feedback				
2.22	Recognize, organize, write and compile technical information and summaries.				
2.23	Use medical terminology to communicate information, data and observations				
2.24	Use medical terminology within a scope of practice in order to interpret, transcribe and communicate information, data and observations				

Systems:				
3.1	**Health Care Delivery System**			
3.11	Describe systems theory and its' components As it relates to the healthcare delivery system model			
3.12	Construct a general systems model using inputs, throughputs, and a feedback loop			
3.13	Predict where and how factors such as: cost, managed care, technology, an aging population, access to care, alternative therapies, and lifestyle/behavior changes may affect various health care delivery system models			
3.2	**Health Care Delivery System Results**			
3.21	Interpret the various roles of healthcare providers and clients within the healthcare system			
3.22	Evaluate the impact of enhanced technology on the health care delivery system			
3.3	**System Change**			
3.31	Analyze the cause and effect on health care system change based on the influence of: technology, epidemiology, bio-ethics, socio-economics, and various forms of complimentary (non-traditional) medicine			
Employability Skills:				
4.1	**Key Employability Skills**			
4.11	Adapt to the dynamics of change			
4.12	Adopt personal appearance and hygiene habits appropriate to the health care environment and industry expectations			
4.13	Practice personal integrity and honesty			
4.14	Formulate solutions to problems using critical thinking skills (analyze, synthesize, evaluate) independently and in teams			
4.15	Interact appropriately and respectfully with diverse ethnic, age, cultural, religious, and economic groups in various employment and social situations			
4.16	Exhibit respectful and empathetic behavior when interacting with peers, superiors, subordinates and customers in one-on-one group situations			
4.17	Follow attendance policies of the employer or educational institution			
4.18	Accept responsibility for own actions			
4.2	**Interpersonal Communications**			
4.21	Communicate in a straight forward, understandable, accurate and timely manner			
4.22	Listen attentively to verbal instruction, request, and other information to verify accuracy			
4.23	Provide written communication that is accurate and grammatically correct, using nomenclature appropriate to the environment.			
4.24	Interpret technical materials used for health care practices and procedures.			
4.3	**Personal Growth and Development**			
4.31	Provide written communication that is accurate and grammatically correct, using nomenclature appropriate to the environment			
4.32	Interpret technical materials used for health care practices and procedures			
4.33	Show enthusiasm and commitment by meeting expectations and priorities of the organization.			
4.4	**Career Decision-making**			
4.41	Explore a potential health science career path in at least one of the following health care services: diagnostic, therapeutic, information, or environmental.			
4.42	Consider levels of education, credentialing requirements, employment opportunities, workplace environments, and career growth potential for a service area.			
Legal Responsibilities				
5.1	**Legal Implications**			
5.11	Analyze legal responsibilities, limitations, and implications of actions			
5.12	Compare and contrast behaviors and practices that could result in malpractices, liability, or negligence			
5.13	Comply with policies and requirements for documentation and record keeping			
5.14	Comply with established risk management criteria and procedures			
5.15	Comply with non-discriminatory laws			
5.16	Comply with institutional policy and procedure			
5.2	**Legal Practices**			
5.21	Comply with Federal HIPPA Laws			
5.22	Perform duties according to regulations, policies, laws and legislated rights of clients			
5.23	Maintain clients rights according to the Patients' Bill of Rights			
5.24	Comply with institutional policy and procedure			
5.25	Follow mandated standards for workplace safety, i.e., OSHA, CDC, CLIA			
Ethics:				

6.1	Legal and Ethical Boundaries				
6.11	Differentiate between morality and ethics and the relationship of each to health care outcomes				
6.12	Differentiate between ethical and legal issues impacting health care				
6.13	Contrast personal, professional, and organizational ethics				
6.14	Analyze legal and ethical aspects of confidentiality				
6.15	Discuss bio-ethical issues related to health care				
6.16	Analyze and evaluate the implications of medical ethics				
6.2	Ethical Practice				
6.21	Demonstrate professionalism, when interacting with fellow students, co-workers, and the organization – Demonstrate professionalism, including honesty and integrity, when interacting with fellow students, co-workers, and other members of the health care se				
6.22	Respect interdisciplinary roles of team members				
6.23	Report activities and behaviors by self and others that adversely affect the health, safety, or welfare of students, clients, or co-workers				
6.24	Demonstrate fairness and equal treatment of all persons				
6.25	Practice responsibility within the ethical framework of the Patients' Bill of Rights				
6.26	Value clients independence and determination				
6.3	Cultural, Social, and Ethnic Diversity				
6.31	Discuss the impact of religions and cultures on those giving and receiving health care with an understanding of past and present events				
6.32	Discuss the impact of religions and cultures on those giving and receiving health care with an understanding of past and present events				
Safety:					
7.1	Infection Control				
7.11	Practice infection control procedures including standard precautions				
7.12	Contrast medical and surgical asepsis				
7.2	Personal Safety				
7.21	Manage a personal exposure incident in compliance with OSHA regulations and CDC regulations				
7.22	Apply principles of body mechanics and ergonomics				
7.23	Apply principles of body mechanics and ergonomics				
7.3	Environmental Safety				
7.31	Modify the environment to create safe working conditions Evaluate and modify the environment to create and maintain safe working conditions				
7.32	Demonstrate methods of fire prevention in the health care setting				
7.33	Prevent accidents by using proper safety techniques for the prevention of accidents				
7.4	Common Safety Hazards				
7.41	Use Materials Safety Date Sheets (MSDS), Globally Harmonized System (GHS), and 16 section Safety Data Sheet (SDS)				
7.42	Adhere to hazardous labeling requirements				
7.43	Comply with safety signs, symbols, and labels				
7.44	Take appropriate action when observing a hazardous material problem				
7.45	Apply safety principles within given environments				
7.5	Emergency Procedures and Protocols				
7.51	Interpret the evacuation plan for the health care setting				
7.52	Follow the facility procedure when a fire is discovered				
Teamwork:					
8.1	Health Care Teams				
8.11	Apply the team concept in providing quality patient care				
8.12	Recognize characteristics of effective teams				
8.13	Analyze roles of various team participants				
8.2	Team Member Participation				
8.21	Collaborate with others to formulate team objectives				
8.22	Act responsibly as a team member, completing assigned tasks in a timely and effective manner				
8.23	Actively listen to other team members				
8.24	Exercise leadership skills as appropriate				

8.25	Respect and value the expertise and contributions of all team members				
8.26	Work collaboratively with persons form diverse backgrounds to accomplish a common goal				
8.27	Apply corrective action to an acknowledged conflict situation				
8.28	Exhibit a strong sense of team identity and commitment to purpose				
8.29	Communicate verbally and non-verbally with team colleagues to assure a best result for the client				
Health Maintenance:					
9.1	**Healthy Behaviors**				
9.11	Apply behaviors that promote health and wellness				
9.12	Advocate available preventive health screening and examinations				
9.13	Use practices that promote the prevention of disease and injury				
9.14	Use appropriate safety practices as related to high-risk behaviors				
9.15	Discuss complementary/alternative health practices as they relate to wellness and disease prevention.				
Technical Skills:					
10.1	**Occupational Safety**				
10.11	Apply Standard Precautions as described in the rules and regulations set forth by the Occupational Safety and Health Administration (OSHA)				
10.12	Obtain Cardiopulmonary Resuscitation (CPR) certification and Automated External Defibrillator (AED) training				
10.13	Apply skills to obtain training or certification in First Aid and Foreign Body airway Obstruction (FBAO)				
10.14	Demonstrate safety procedures to protect clients, co-workers, and self				
Information Technology Applications:					
11.1	**Communication Technology Health Information Management**				
11.11	Use communication technology (Fax, E-mail, Internet) to access and distribute data and other information.				
11.12	Understand the content and diverse uses of health information				
11.2	**Information Technology**				
11.21	Execute the use of software, hardware, and the internet				
11.22	Recognize computer application currently being used in today's healthcare setting				
	Total:				

44050 – First Aid/CPR/EMR (.5 Credit) - *(Certification Course, Instructor must hold appropriate certification)*

		3	2	1	0
See Emergency & Fire Management Services for Competencies 43.0299					
	http://www.ksde.org/Portals/0/CSAS/Content%20Area%20(F-L)/Law,%20Public%20Safety,%20Corrections,%20and%20Security/Emerg%20Fire%20Ser%20Design%2012-4-13.pdf				
1.1	**Protocols**				
1.11	Use protocols in emergency management response when working with an on-scene accident				
1.12	Use radio equipment, computer technology and public address/warning systems to manage emergency situations				
1.13	Practice response procedures used to respond to small and catastrophic incidents				
1.14	List examples of when you should phone your department/agency emergency response number (or 911) for help				
1.15	Explain how to contact the Emergency Medical Services system in your area				
1.16	Explain how to phone your department/agency emergency response number (or 911)				
1.17	Describe where to find a list of items in the first aid kit at your worksite				
2.1	**Legal**				
2.11	List laws, ordinances and organizational rules of conduct to perform assigned duties				
2.12	Explain your role in keeping first aid care confidential				
2.13	Explain which forms your department/agency wants you to fill out after you give first aid				
3.1	**Safety**				
3.11	List local, state, and federal regulations pertaining to safety issues				
3.12	Display proper handling of hazardous materials to manage demands of medical, fire, environmental, and technical disasters for situations when hazardous materials are present				
3.13	Explain how to keep the victim from further injury when giving first aid				

3.14	Explain how to keep yourself safe when giving first aid, including putting on and taking off protective gloves				
4.1	**Technical Skills**				
4.11	Explain first aid actions for a victim with chest discomfort, pain or pressure				
4.12	Describe the first aid actions for bleeding that you can see and how to stop it				
4.13	Describe how to relieve choking				
4.14	Describe how to use an epinephrine pen				
4.15	Explain when you should expect bleeding inside the body				
4.16	Describe first aid actions for bleeding you can't see				
4.17	Explain the first aid actions for broken bones and sprains				
4.18	List the first aid actions for burns				
4.19	Describe the first aid actions for a victim of electrocution				
4.20	Describe the first aid actions for bites and stings				
4.21	Describe the first aid actions for heat-related emergencies				
4.22	Describe the first aid actions for burns				
4.23	Explain the steps for giving first aid for poisoning				
4.24	Demonstrate CPR techniques for use on an adult				
4.25	Demonstrate CPR techniques for use on a child				
4.26	Demonstrate CPR techniques for use on an infant				
4.27	Describe what an Automatic External Defibrillator (AED) does				
4.28	Explain how to give CPR and use an AED				
5.1	**Responsibilities**				
5.11	List responsibilities of a beginning employee in emergency, fire, and EMT/First Responder services career to understanding the emotional and physical challenges of the field				
5.12	Describe how a first aid rescuer might feel after an emergency				
5.13	Define first aid and describe who has the duty to give first aid				
6.1	**Assessment**				
6.11	Describe several words that a victim may use to describe discomfort, pain, or pressure caused by a heart attack				
6.12	Describe the signs and actions for a victim with a bad allergic reaction				
6.13	List the signs and symptoms of a victim with a breathing problem and describe what to do				
6.14	Explain where the pain or pressure of a heart attack might be located				
6.15	Explain fainting and the first actions for it				
6.16	Describe the signs, symptoms and first aid actions for low blood sugar in a person with diabetes				
6.17	List the three signs and symptoms of and first aid actions for a stroke				
6.18	Describe the signs and symptoms of and first aid actions for a person having a seizure				
6.19	The signs of and first aid actions for shock				
6.20	List signs of and first aid actions for a victim with head, neck and spine injury				
6.21	Describe the signs of and first aid actions for cold related emergencies				
6.22	Explain use situations and operation of an AED				
	<u>Total:</u>				

44060 – EMERGENCY MEDICAL TECHNICIAN (EMT) (1 Credit) - *(Certification Course, Instructor must hold appropriate certification)*

		3	2	1	0
See Emergency & Fire Management Services for Competencies 43.0299					
	http://www.ksde.org/Portals/0/CSAS/Content%20Area%20(F-L)/Law,%20Public%20Safety,%20Corrections,%20and%20Security/Emerg%20Fire%20Ser%20Design%2012-4-13.pdf				

44224 – Forensic Science (.5 Credit)

		3	2	1	0
1.1	**Introduction**				
1.11	Discuss careers available in the field of forensic science and training required for each				
1.12	Identify certifications and post-secondary programs for forensic science careers				
1.13	Distinguish individual evidence from class evidence and discuss its relevance in a court of law				
1.14	Justify use of observation skills and debate validity of eyewitness accounts of events				
1.15	Practice HazMat and Bloodborne Pathogen safety				
2.1	**Crime Scene Investigation**				
2.11	Differentiate procedures for securing & documenting a crime scene				
2.12	Perform evidence collection and storage				
3.1	**Trace Evidence**				
3.11	Develop, analyze and classify fingerprints				
3.12	Identify & compare various types of shoe, tire, palm, lip, and bite prints				
3.13	Analyze, identify, and compare various hair samplesD				
3.14	Compare various types of fibers through physical and chemical analysis				
4.1	**Drugs & Toxicology**				
4.11	Perform tests to identify various drugs and/or poisons				
4.12	Research and examine how various drugs &/or poisons affect and/or move through the human body				
5.1	**Soil & Glass Analysis**				
5.11	Deduce, compare & contrast characteristics of various types of sand and soil				
5.12	Use refractive index and density to determine differences in small particles of glass				
	Total:				

44225 – Forensic Science Comprehensive (1 Credit)

		3	2	1	0
1.1	**Introduction**				
1.11	Discuss careers available in the field of forensic science and training required for each				
1.12	Identify certifications and post-secondary programs for forensic science careers				
1.13	Distinguish individual evidence from class evidence and discuss its relevance in a court of law				
1.14	Justify use of observation skills and debate validity of eyewitness accounts of events				
1.15	Practice HazMat and Bloodborne Pathogen safety				
2.1	**Crime Scene Investigation**				
2.11	Differentiate procedures for securing & documenting a crime scene				
2.12	Perform evidence collection and storage				
3.1	**Trace Evidence**				
3.11	Develop, analyze and classify fingerprints				
3.12	Identify & compare various types of shoe, tire, palm, lip, and bite prints				
3.13	Analyze, identify, and compare various hair samplesD				
3.14	Compare various types of fibers through physical and chemical analysis				
4.1	**Drugs & Toxicology**				
4.11	Perform tests to identify various drugs and/or poisons				
4.12	Research and examine how various drugs &/or poisons affect and/or move through the human body				
5.1	**Soil & Glass Analysis**				
5.11	Deduce, compare & contrast characteristics of various types of sand and soil				
5.12	Use refractive index and density to determine differences in small particles of glass				
6.1	**Serology**				

6.11	Distinguish between human and animal blood				
6.12	Accurately type blood				
6.13	Explore bloodstain patterns as a function of velocity, direction and height of fall				
7.1	**DNA Analysis**				
7.11	Describe crime scene evidence collection and processing to obtain DNA				
7.12	Isolate and extract DNA from cells				
7.13	Justify use of DNA to determine family connections				
7.14	Examine use of DNA in the legal process				
8.1	**Forensic Entomology**				
8.11	Outline the succession of various types of insects found on a body as it decomposes				
8.12	Deduce time of death using insect evidence				
9.1	**Human Remains**				
9.11	Use a human skeleton to determine gender, age range, height and race				
9.12	Predict time of death using rigor mortis, algor mortis, livor mortis, and stages of decomposition				
9.13	Distinguish between cause, manner, and mechanisms of death				
10.1	**Handwriting/Document Analysis**				
10.11	Characterize facets of individual handwriting				
10.12	Distinguish between different handwriting styles				
10.13	Conduct an experiment using paper chromatography to determine the ink used				
10.14	Describe features of paper currency used to detect counterfeit bills				
11.1	**Ballistics & Tool Marks**				
11.11	Distinguish between types of firearms and ammunition				
11.12	Use bullet trajectory to determine position of shooter				
11.13	Design and conduct scientific investigations to match tool marks in a criminal investigation				
11.14	Distinguish between impressions with microscopic examinations				
	<u>Total:</u>				