2022 – 2023

PROGRAM GUIDE FOR:

HEALTH SCIENCE CLUSTER

AND MIDDLE SCHOOL

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CAREER AND TECHNICAL EDUCATION
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Health Science Cluster Program Guide

The Health Science cluster provides students with essential knowledge and skills for pursuing careers in the following five pathways: Therapeutic Services, Diagnostic Services, Health Informatics, Support Services, and Biotechnology Research and Development. Rigorous and challenging content may include a variety of instructional strategies, work-based learning experiences, and simulation.

**Courses highlighted in yellow are shared with other clusters. See "Shared Courses" table on page 3 for additional details.

Career Pathway Program	Health Science Program		
	(Must teach three courses from this program list within two years)		
	The Health Science Program instructional content incorporates project- and problem-based healthcare practices and procedures to demonstrate knowledge and skills fundamental to a variety of healthcare careers. Knowledge and skills are reinforced and enhanced through co-curricular activities and participation in HOSA – Future Health Professionals and work-based learning opportunities that are age and grade appropriate.		
Course Number	**Career Pathway Program Courses**	**Career Readiness Indicator (CRI)**	**Workforce Careers**
14002G1001	**Foundations of Health Science** - Required prerequisite course/Health Education substitute	• BLS Instructor with Healthcare Provider	• Biotechnology Research and Development Pathway
14297G1000	Advanced Health Seminar	• Certified Billing and Coding Specialist (CBCS)	• Diagnostic Services Pathway
14999G1000	CTE Lab in Health Science	• Certified Clinical Medical Assistant (CCMA)	• Health Informatics Pathway
14054G1000	Dental Assisting	• Certified EKG Technician (CET)	• Support Services Pathway
14149G1000	Diagnostic Services	• Certified Electronic Health Records Specialist (CEHRS)	• Therapeutic Services Pathway
14055G1000	Emergency Services and Management	• Certified Medical Administrative Assistant (CMAA)	
14062G1005	Exercise Prescription Physiology	• Certified Nursing Assistant (CNA)	*(See page 4 for sample workforce careers)*
19259G0500	Family Wellness (1/2 credit) – Health Education substitute	• Certified Pharmacy Technician (CPhT)	
15055G1000	Forensic Science and Crime Scene Investigation - Science credit eligible	• Certified Patient Care Technician (CPCT)	
14157G1000	Health Informatics	• Elanco Veterinary Medical Applications Certification	
14251G0500	Health Promotion and Wellness (1/2 credit)	• Emergency Medical Dispatcher (EMD)	
14298G1000	Health Science Internship*, 1 credit option (Content Standards 1, 3, 4, 5, 6, and 9), 11th or 12th grade	• Lifeguard Certification (American Lifeguard Association or American Red Cross)	
14298G2000	Health Science Internship*, 2 credit option (Content Standards 1-11). 11th or 12th	• National Emergency Medical Responder (EMR)	
14299G1001	Human Body Structures and Functions – Science credit eligible	• National Emergency Medical Technician (EMT)	
14252G1001	Introduction to Biotechnology -Science credit eligible	• Public Safety Telecommunicator (Alabama Fire College)	
14152G1000	Introduction to Pharmacy		
18105G1012	Introduction to Veterinary Sciences		
14062G1004	Kinesiology and Biomechanics		
14156G1000	Medical Coding		
14154G1000	Medical Terminology		
14051G2000	Nurse Aide Training (11th or 12th grade only)		
14254G1000	Nutrition in Healthcare		
14056G1000	Operating Room Foundations		
14002G1002	Orientation to Health Science		
14051G1000	Patient Care Technician		
14152G1001	Pharmacy Technician		
17049G1000	Safety and Health Regulations		
14997G1000	Senior Career Pathway Project Health Science		
14062G1003	Sports Medicine Fundamentals		
14062G1001	Sports Medicine Intermediate		
14062G1002	Sports Medicine Advanced (11th or 12th grade)		
14202G1000	Support Services		
14099G1000	Therapeutic Services		
18105G1022	Veterinary Science		

*   Successful completion of one credit (minimum) in Health Science coursework is required prior to placement of a student in a clinical/internship. A program receiving a waiver for the Foundations of Health Science prerequisite is **not** exempt from the requirement. Please refer to the Internship manual for forms and contracts to be used with LEA board approval.

Career Pathway Program	PLTW Biomedical Science Program		
	The PLTW Biomedical Science program curriculum allows students to investigate the roles of biomedical professionals as they study the concepts of human medicine, physiology, genetics, microbiology, and public health. Knowledge and skills are reinforced and enhanced through participation in HOSA – Future Health Professionals and project-based learning opportunities that are age and grade appropriate. **(Contact PLTW for additional information. This is a purchased curriculum.)**		
Course Number	**Career Pathway Program Courses**	**Career Readiness Indicator (CRI)**	**Workforce Careers**
14255G1000	Biomedical Innovation	• BLS Instructor with Healthcare Provider	• Biotechnology Research and Development Pathway
14299G1002	Human Body Systems - Science credit eligible	• Certified Billing and Coding Specialist (CBCS)	• Diagnostic Services Pathway
14001G0608	Medical Detectives (PLTW Middle Level Course)	• Certified Clinical Medical Assistant (CCMA)	• Health Informatics Pathway
14299G1003	Medical Interventions	• Certified EKG Technician (CET)	• Support Services Pathway
14252G1002	Principles of the Biomedical Sciences	• Certified Electronic Health Records Specialist (CEHRS)	• Therapeutic Services Pathway
		• Certified Medical Administrative Assistant (CMAA)	*(See page 4 for sample workforce careers)*
		• Certified Nursing Assistant (CNA)	
		• Certified Pharmacy Technician (CPhT)	
		• Certified Patient Care Technician (CPCT)	
		• Emergency Medical Dispatcher (EMD)	
		• Lifeguard Certification (American Lifeguard Association or American Red Cross)	
		• National Emergency Medical Responder (EMR)	
		• National Emergency Medical Technician (EMT)	
		• Public Safety Telecommunicator (Alabama Fire College)	

2022-2023 Subject and Personnel Codes
Health Science Cluster and Health Science Middle School Program

Health Science Cluster Courses

Course Number	Course Name	Course Number	Course Name
14297G1000	Advanced Health Seminar	14062G1004	Kinesiology and Biomechanics
14999G1000	CTE Lab in Health Science	14156G1000	Medical Coding
14054G1000	Dental Assisting	14154G1000	Medical Terminology
14149G1000	Diagnostic Services	14051G2000	Nurse Aide Training (11th or 12th grade only)
14055G1000	Emergency Services and Management	14254G1000	Nutrition in Healthcare
14062G1005	Exercise Prescription Physiology	14056G1000	Operating Room Foundations
19259G0500	Family Wellness (½ credit) - Health Education substitute	14002G1002	Orientation to Health Science
15055G1000	Forensic Science and Crime Scene Investigation - Science credit eligible	14051G1000	Patient Care Technician
14002G1001	**Foundations of Health Science – Required prerequisite course/Health Education substitute**	14152G1001	Pharmacy Technician
14157G1000	Health Informatics	17049G1000	Safety and Health Regulations
14251G0500	Health Promotion and Wellness (½ credit)	14997G1000	Senior Career Pathway Project, Health Science
14298G1000	Health Science Internship 1 credit option (Content Standards 1, 3, 4, 5, 6, and 9), 11th or 12th grade	14062G1003	Sports Medicine Fundamentals
14298G2000	Health Science Internship, 2 credit option (Content Standards 1-11), 11th or 12th	14062G1001	Sports Medicine Intermediate
14299G1001	Human Body Structures and Functions - Science credit eligible	14062G1002	Sports Medicine Advanced (11th or 12th grade)
14252G1001	Introduction to Biotechnology - Science credit eligible	14202G1000	Support Services
14152G1000	Introduction to Pharmacy	14099G1000	Therapeutic Services
18105G1012	Introduction to Veterinary Sciences	18105G1022	Veterinary Science

PLTW Biomedical Science Cluster Courses

Course Number	Course Name	Course Number	Course Name
14255G1000	Biomedical Innovation	14299G1003	Medical Interventions
14299G1002	Human Body Systems - Science credit eligible	14252G1002	Principles of the Biomedical Sciences
14001G0608	Medical Detectives (PLTW Middle Level Course)		

Health Science Middle School Program Courses

The Health Science Middle School Program instructional content is designed to allow students to explore careers, terminology, basic skills, and technologies associated with each pathway in the Health Science career cluster. Knowledge and skills are reinforced and enhanced through participation in HOSA – Future Health Professionals and project-based learning opportunities that are age and grade appropriate.

Course Number	Course Name
22151G0608	Career Cluster Explorations (70 instructional - hour course)
14001G0635	Health Explorations (35 instructional - hour course) (Content Standards 1-4)
14001G0670	Health Explorations (70 instructional - hour course) (Content Standards 1-6)
14001G0640	Health Explorations (140 instructional - hour course) (All Content Standards)
14002G0670	Introduction to Careers in Healthcare (70 instructional - hour course) (Content Standards 1-6)
14002G0608	Introduction to Careers in Healthcare (140 instructional - hour course) (All Content Standards)

Shared Courses

Course Number	Course Name	Cluster(s)	Required Year to Implement COS
14055G1000	Emergency Services and Management	Law, Public Safety, Corrections and Security	2021-2022
19259G0500	Family Wellness (½ credit)	Human Services	2008-2009
15055G1000	Forensic Science and Crime Scene Investigation	Law, Public Safety, Corrections and Security	2021-2022
18105G1012	Introduction to Veterinary Sciences	Agriculture, Food and Natural Resources	2021-2022
17049G1000	Safety and Health Regulations	Architecture and Construction Manufacturing Transportation, Distribution and Logistics	2022-2023
18105G1022	Veterinary Science	Agriculture, Food and Natural Resources	2021-2022

Health Science Pathways and Sample Workforce Careers				
Therapeutic Services	**Diagnostic Services**	**Support Services**	**Health Informatics**	**Biotechnology Research and Development**
Acupuncturist Anesthesiologist Assistant Art/Music/Dance Therapist(s) Athletic Trainer Audiologist Certified Nursing Assistant Certified Registered Nurse Anesthetist (CRNA) Chiropractor Dental Assistant Dental Hygienist Dental Lab Technician Dentist Dialysis Technician Dietitian/Nutritionist Dietetic Technician Dosimetrist Emergency Medical Technician Home Health Aide Kinesiotherapist Licensed Practical Nurse Massage Therapist Medical Assistant Mortician Nurse Practitioner Occupational Therapist Occupational Therapy Assistant Ophthalmic Technician Orientation & Mobility Specialist Orthotist/Prosthetist Paramedic Pedorthist Personal Care Aid Pharmacist Pharmacy Technician Physical Therapist Physical Therapy Assistant Physician (MD/DO) Physician Assistant Podiatrist Psychologist Psychiatrist Radiation Therapist Recreational Therapist Registered Nurse Rehabilitation Counselor Respiratory Therapist Social Worker Speech Language Pathologist Surgeon Surgical Technologist Veterinarian Veterinarian Technician Wellness Coach	Audiologist Blood Bank Technician Cardiovascular Technologist Clinical Laboratory Technician Computer Tomography (CT) Technologist Cytogenetic Technologist Cytotechnologists Diagnostic Medical Sonographers Electrocardiographic (ECG) Technician Neurodiagnostic Technologist Exercise Physiologist Genetic Counselor Histotechnician Histotechnologist Magnetic Resonance (MR) Technologist Mammographer Medical Technologist/ Clinical Laboratory Scientist Nuclear Medicine Technologist Nurse Practitioner Nutritionist/Dietitian Occupational Therapist Ophthalmic Technician/Technologist Ophthalmic Dispensing Optician Optometrist Phlebotomist Physical Therapist Polysomnographic Technologist Positron Emission Tomography (PET) Technologist Radiologic Technician Respiratory Therapist	Behavioral Disorder Counselor Biomedical/Clinical Engineer Biomedical/Clinical Technician Clinical Simulator Technician Central Service Manager Central Service Technician Community Health Worker Dietary Manager Dietary Aide Environmental Services Facilities Manager Health Care Administrator Healthcare Economist Maintenance Engineer Industrial Hygienist Interpreter Materials Manager Patient Navigator Substance Abuse Coordinator Telehealth Presenter Transport Technician	Admitting Clerk Applied Researcher Cancer Registrar Certified Compliance Technician Clinical Account Manager Clinical Account Technician Clinical Coder Clinical Data Miner Clinical Data Management Specialist Clinical Data Specialist Community Services Specialist Data Quality Manager Decision Support Analyst Epidemiologist Ethicist Health Educator Health Information Administrator Health Information Technician Health Information Services Healthcare Administrator Healthcare Finance Professional Information Privacy Officer Information Security Officer Medical Assistant Medical Illustrator Medical Information Technologist Medical Librarian Patient Account Manager Patient Account Technician Patient Advocate Patient Information Coordinator Project Manager Quality Management Specialist Quality Data Analyst Reimbursement Specialist Risk Manager Transcriptionist Unit Coordinator Utilization Manager Utilization Review Manager	Biochemist Bioinformatics Associate Bioinformatics Scientist Bioinformatics Specialist Biomedical Chemist Biomedical/Clinical Engineer Biomedical/Clinical Technician Biostatistician Cell Biologist Clinical Data Management Associate/Consultant Clinical Pharmacologist Clinical Trial Monitor Clinical Trials research Associate Clinical Trials Research Coordinator Geneticist Laboratory Assistant-Genetics Laboratory Technician Medical Editor/Writer Microbiologist Molecular Biologist Pharmaceutical /Clinical Project Manager Pharmaceutical Sales Representative Pharmaceutical Scientist Pharmacologist Product Safety Associate/Scientist Processing Technician Quality Assurance Technician Quality Control Technician Regulatory Affairs Specialist Research Assistant Research Scientist Toxicologist

Source: National Consortium for Health Science Education 2021