

## **District Career & Technical Education (CTE) Pathway Proposal**

The Career & Technical Education (CTE) Pathway proposal is to be submitted to the CTE Coordinator for prior approval and should include the following information:

**Name of State approved (CCCS) CTE Program:** Health

**CCCS Student Rights Assurance:** Approved programs must assure and have strategies in place to ensure that no student is unlawfully: • Discriminated against the basis of age, race, religion, color, national origin, sex/gender, pregnancy status, gender identity, sexual orientation, or disability in its activities or programs as required by Title VI, Title IX, and Section 504, Age Discrimination Act, and Title II of the Americans with Disabilities Act. • Denied an equal opportunity to benefit from occupational education solely on the basis of race, color, religion, national origin, sex, age, or disability. Additionally, CTE staff must work with students with qualified disabilities (including the learning disabled and those with physical, sensory, and temporary disabilities) to provide appropriate assistance to students so that they may participate in approved CTE programs as fully as possible. Each program is responsible for providing evidence of each of these in the case of an audit or upon CCCS request.

### **I. GOALS**

A. Provide a brief overview of the CTE Pathway. The health science pathway explores the discipline of applied science which deals with human health. There are two parts to health science: the study, research, and knowledge of health, and the application of that knowledge to improve health, cure diseases, and understanding how humans function.

B. How does this CTE Pathway fit into the overall educational program? CTE programs significantly increase not only the high school graduation rate, but also results in a higher percentage of students going to college and persisting through graduation. Students taking both academic and technical courses have lower dropout rates and better achievement gains than other students.

C. What benefits would students receive from this CTE pathway? This pathway will prepare students for entry level positions in a health-related setting, including research. The courses will provide students the opportunity to be prepared to focus on skills that will increase their postsecondary readiness in the field of health care.

**II. CAREER & TECHNICAL EDUCATION (CTE) PATHWAY COURSES**

Complete the table below indicating the course sequence students would take within the CTE program. Other courses may be added or changed within the program, based upon the need of students or program modifications. **New course names will be indicated in red text.**

<i>Pathway Name:</i>	Health
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<i>Sub-Pathway Name (if applicable):</i>	Biotech / Biomedical
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<i>Level:</i>	<i>State Approved Course Name:</i>	<i>State Approved Description:</i>	<i>CIP Code</i>
Level 1	Introduction to Health Science A	This two-semester introductory Health Science course provides an overview of the challenging environments and occupation is the healthcare field. This course introduces students to the five pathways that make up the health science cluster (Diagnostic, Therapeutic, and Support Services, Health Informatics, Biotechnology Research and Development). In addition, students are provided a hands-on application of the foundational skills/ knowledge including health maintenance, employability skills, teamwork, healthcare systems, communications, and legal issues in healthcare. This course includes preparation for Basic Life Support for Healthcare Providers certification.	519999
Level 1	Introduction to Health Science B	The second semester of this two-semester course builds on the first and encourages awareness of career possibilities in healthcare and informs students of educational opportunities available in health science programs. This course integrates foundational theory with technical skills necessary for healthcare environments. Instruction includes: an overview of body systems, medical terminology, communication, principles of patient care, concepts of ethics and bioethics, safety practices including infection control, personal and environmental safety, technology, cultural awareness, emergency procedures and protocols; common and emerging diseases and disorders, fundamental skills of basic care, medical math, CPR and first aid. This course includes preparation for Basic Life Support for Healthcare Providers certification.	519999

Level 2	Medical Terminology A	Demonstrates knowledge of medical terminology with emphasis on combining complex prefixes, roots and suffixes. Course includes terms related to diagnostic tools per body systems, as well as commonly used medical abbreviations. Course applies medical terminology knowledge in interpreting the medical record.	519999
Level 3	Introduction to Biotechnology A	This two-semester course introduces students to modern molecular biotechnology concepts and lab techniques. Students gain hands-on authentic lab experience as they learn advanced molecular biology topics including DNA structure and replication, protein synthesis, protein structure and function, and gene expression, regulation and silencing. Other topics covered include genetic engineering and bacterial transformation, medical biotechnology, environmental biotechnology, bioinformatics and DNA sequencing, and biotechnology business. Lab experiences may include following safety procedures in a biological laboratory, sterile techniques, documentation of work in a legal lab notebook, PCR, gel electrophoresis, bacterial transformation and genetic engineering, protein purification, DNA sequencing and bioinformatics and gene silencing. Students will learn to work with important model organisms such as <i>Drosophila</i> , <i>C. elegans</i> , bacteria, yeast, and/or Zebrafish embryos. They also will develop important communication and writing skills related to working in a biological sciences field.	519999
Level 3	Introduction to Biotechnology (BIO 160)	Introduces the student to modern molecular biology technologies that include DNA, RNA, and proteins and prepares them for research and industry. Laboratory experience includes sterile technique, microscopy, media preparation, and bacterial culturing.	519999
Level 3	Experimental Design A	In this two-semester course, Students will conceive of, design, and complete projects using scientific inquiry and experimentation methodologies. Emphasis will be placed on safety issues, research protocols, controlling or manipulating variables, data analysis, and a coherent display of the projects and their outcomes.	519999
Level 3	Experimental Design B	In the second semester of this two-semester course, Students will continue to conceive of, design, and complete projects using scientific inquiry and experimentation methodologies. Emphasis will be placed on safety issues, research protocols, controlling or manipulating variables, data analysis, and a coherent display of the projects and their outcomes.	519999

Level 4	Biotechnology Research Methods	This semester course builds upon Introduction to Biotechnology A & B. students participate in a deeper exploration of the research methods used in the laboratory including sterile technique, microscopy, media preparation and bacterial culturing.	519999
Level 4	Capstone	This course allows for advanced work in any ag Program of Study. This advanced work can be individualized to the specific program of study to allow for specialized study for the student. It may include project based learning or preparation for the end of program industry certification. Specific content and course design will be determined by the instructor in collaboration with the individual student.	519999

<i>Sub-Pathway Name (if applicable):</i>	General Health Science
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Level:	State Approved Course Name:	State Approved Description:	CIP Code
Level 1	Introduction to Health Science A	This two-semester introductory Health Science course provides an overview of the challenging environments and occupation is the healthcare field. This course introduces students to the five pathways that make up the health science cluster (Diagnostic, Therapeutic, and Support Services, Health Informatics, Biotechnology Research and Development). In addition, students are provided a hands-on application of the foundational skills/ knowledge including health maintenance, employability skills, teamwork, healthcare systems, communications, and legal issues in healthcare. This course includes preparation for Basic Life Support for Healthcare Providers certification.	519999
Level 1	Introduction to Health Science B	This two-semester introductory Health Science course provides an overview of the challenging environments and occupation is the healthcare field. This course introduces students to the five pathways that make up the health science cluster (Diagnostic, Therapeutic, and Support Services, Health Informatics, Biotechnology Research and Development). In addition, students are provided a hands-on application of the foundational skills/ knowledge including health	519999

		<p>maintenance, employability skills, teamwork, healthcare systems, communications, and legal issues in healthcare. This course includes preparation for Basic Life Support for Healthcare Providers certification.</p>	
Level 2	Anatomy and Physiology A	<p>The first semester of this two semester course provides a deeper exploration of the human body and biological systems in greater detail. Students expand their knowledge of the body and terminology/phonetic pronunciations used to describe and locate body parts as well as an overall review of human development and body processes. This course includes infection control and standard precautions, which emphasizes the importance of maintaining health and safety in the healthcare work environment, additionally, it highlights the latest practices and protocols.</p>	519999
Level 2	Anatomy and Physiology B	<p>The second semester of this two semester course continues the deeper exploration of the human body and biological systems in greater detail. Students expand their knowledge of the body and terminology/phonetic pronunciations used to describe and locate body parts as well as an overall review of human development and body processes. This course includes infection control and standard precautions, which emphasizes the importance of maintaining health and safety in the healthcare work environment, additionally, it highlights the latest practices and protocols.</p>	519999
Level 3	Medical Forensics A & B	<p>This two-semester course is designed to create an awareness of the branch of health science relating to medical forensics. This course focuses on introductory skills and assessment in order to develop the ability to identify, analyze, and process logically using deductive reasoning and problem solving. Medical forensics involves many aspects of health science instruction including laboratory skills and safety, microscopy, toxicology, measurement, physical evidence</p>	519999
Level 3	HOSA Leadership (A & B)	<p>Focuses on the leadership skills for contemporary organizations. Covers development and communication a shared vision to motivate and empower employees to manage conflict, to negotiate, and to develop teams.</p>	519999
Level 4	Internship	<p>Provides students with the opportunity to supplement coursework with practical work experience related to their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of</p>	519999

		the instructor.	
Level 4	WBL Health Science	Students build on prior knowledge and skills in the program of study to further develop and apply employability and technical skills that prepare them for success in future career and postsecondary education, as deemed developmentally appropriate.	519999
Level 4	Patient Care Technician Certification Prep (PCT)	The Patient Care Technician Certification (CPCT/A) course provides preparation for the National Healthcareer Association (NHA) CPCT/A certification exam. The course also instills the knowledge and standards needed for excellence in Patient Care Technician practice. The NHA CPCT/A certification is an approved certification found on the Career Development Incentive Program (CDIP) approved programs list. Students that complete this course and certification are ready for entry level positions in patient care.	519999

**Signature Page**

Does the Career and Technical Education (CTE) Coordinator approve adoption of this program?  
*\*\* Your signature below indicates your approval of the program.*

Aimee Barker

Signature \_\_\_\_\_

Does the Director of CIPG approve adoption of this program?  
*\*\* Your signature below indicates your approval of the program.*

Erica Mason

Signature \_\_\_\_\_

Does the Chief Assessment Officer approve adoption of this program?

<p><i>** Your signature below indicates your approval of the program.</i></p>
<p style="text-align: center;"><i>Matt Reynolds</i></p> <p>Signature _____</p>

<p>Does the Assistant Superintendent approve adoption of this program? <i>** Your signature below indicates your approval of the program.</i></p>
<p style="text-align: center;"><i>Danny Winsor</i></p> <p>Signature _____</p>

Does the Board of Education approve adoption of this program?	Yes	No
Date of BOE Meeting _____		
Signature _____		

**Superintendent File: IGA-E-2**

**Office use:** The following information is required to build individual courses into Infinite Campus.

Credit Type: ( FNA, PRA, MAT, etc)	
Department Code:	
Course Number:	
Course entered in NCAA database if applicable.	
Update <a href="#">Graduation Competencies</a> course document if applicable for Math and English courses.	
VIP Code:	
CIP Code:	
Add to HEAR list, if applicable.	
Course Mapping SCED code:	
Date entered into Infinite Campus	
Credit amount:	





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