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: Agriculture

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. This pathway provides students with the foundational principles of agriculture, plant science, animal science, natural resources and environmental sciences. Students will gain knowledge in career development, leadership, personal development, communications, animal science, plant science, natural resources, food science, power/structure and agribusiness.

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? The intent of agricultural CTE programs is not only to prepare students for careers in the Agriculture career pathways, but also to increase Colorado's students' overall agricultural literacy. Within the Agriculture pathways, students are prepared to work in some of the fastest-growing and highest-wage occupations in Colorado including agricultural marketing and sales, agricultural engineers, laboratory and research technicians, among other specialists in both urban and rural areas.

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.

Pathway Name:	Agriculture

Sub-Pathway Name (if applicable):	Animal Science

Level:	*State Approved Course Name:*	*State Approved Description:*	*CIP Code*
Level 1	*Introduction to Agriculture (A & B)*	*An introductory course for first year agriculture education students. This course introduces students to the foundational principles of agriculture, food and natural resources. Students will gain knowledge in career development, leadership, personal development, communications, animal science, plant science, natural resources, food science, power/structure and agribusiness.*	*109999*
Level 2	*Principles of Animal and Vet Science (A & B)*	*Students will develop knowledge, skills and understanding in the biological processes and physiological systems found in livestock and companion animal species including anatomy and physiology, growth and development, muscular and skeletal systems, integumentary system, respiratory and circulatory systems, nervous system, lymphatic and endocrine systems and excretory system. The scientific processes of observation, hypothesizing, data gathering, interpretation, analysis and application will be included. Career opportunities and educational preparation will be examined. Learning activities are varied with classroom, laboratory and field experiences will be included.*	*109999*
Level 3	*Animal Production (A & B)*	*Students will develop understanding and*	*109999*

		proficiency in the areas of Animal Production Systems, "Farm to Table" , Animal Reproduction and Genetics, Animal Nutrition and Feeding, Animal Behavior and Management, the business side of animal production, and research current Issues facing Animal Agriculture.	
Level 3	*Intermediate Veterinary Science (A & B)*	*Students will develop knowledge, skill and understanding in the biological processes and physiological systems found in livestock and companion animal species pertaining to Animals Current animal agricultural issues will be researched and addressed. The scientific processes of observation, hypothesizing, data gathering, interpretation, analysis and application will be included. Career opportunities and educational preparation will be examined. Learning activities are varied with classroom, laboratory and field experiences will be included.*	*109999*
Level 3	*Equine Science*	*Covers the basics of the equine industry, breeds, selection, form to function, care and management, soundness, health, reproduction, feeding, facilities, physiology, production systems and management systems.*	*109999*
Level 4	*Advanced Animal Production (A & B)*	*Students will identify current Farm to Table trends, take a deep dive into animal genetics at the cellular level including heredity and genetic mutations and variations, look at animal diseases and the antigens to fight those diseases and develop a herd health plan.*	*109999*
Level 4	*Advanced Veterinary Science (A & B)*	*Students will focus on advanced animal behavior and handling, positioning and restraint for surgical procedures, pharmacology, Asepsis, hospital and surgical procedures, antibiotics and antibiotic resistance, laboratory testing and procedures as well as veterinary technologies. Current animal agricultural issues will be researched and addressed. The scientific processes of observation, hypothesizing, data gathering, interpretation, analysis and application will be included. Career opportunities and educational preparation will be examined. Learning activities are varied with classroom, laboratory and field experiences will be included.*	*109999*

Level 4	*Ag Leadership*	*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.*	*109999*
Level 4	*Work-based Learning (WBL)*	*This course is designed to prepare students to enter the workforce through on-the-job training in the form of a work-based learning experience and may be combined with class instruction. Students will build on prior knowledge and skills in the program of study aligned to their career and academic plan to further develop and apply employability and technical skills that prepare them for success in future career and postsecondary education. Students will have the opportunity to develop skills in supervised practical experience on the job or in a classroom-based job environment. A personalized learning plan is a requirement of this course.*	*109999*

Sub-Pathway Name (if applicable):	Natural Resources/Environmental Science

Level:	*State Approved Course Name:*	*State Approved Description:*	*CIP Code*
Level 1	*Introduction to Agriculture (A & B)*	*An introductory course for first year agriculture education students. This course introduces students to the foundational principles of agriculture, food and natural resources. Students will gain knowledge in career development, leadership, personal development, communications, animal science, plant science, natural resources, food science, power/structure and agribusiness.*	*109999*

Level 2	*Principles of Natural Resource Management (A & B)*	*An introductory course for agriculture education students pursuing careers in Natural Resources and Environmental Sciences. This course expands student learning to the foundational principles of ecology including the fields of geology, meteorology, biology and chemistry related to the conservation, natural resources, and fish and wildlife management. Students will gain knowledge in career development, leadership, personal development, communications, and environmental science*	*109999*
Level 3	*Wildlife & Fish Management*	*An introductory course for agriculture education students pursuing careers in Wildlife Management. This course expands student learning to the principles of wildlife management. Students will gain knowledge in career development, leadership, personal development, communications, ecology, biology, zoology and trends in wildlife management in relation to outdoor recreation*	*109999*
Level 4	*Ag Leadership*	*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.*	
Level 4	*Work-based Learning (WBL)*	*This course is designed to prepare students to enter the workforce through on-the-job training in the form of a work-based learning experience and may be combined with class instruction. Students will build on prior knowledge and skills in the program of study aligned to their career and academic plan to further develop and apply employability and technical skills that prepare them for success in future career and postsecondary education. Students will have the opportunity to develop skills in supervised practical experience on the job or in a classroom-based job environment. A personalized learning plan is a requirement of this course.*	*109999*

Sub-Pathway Name (if applicable):	Plant Science

Level:	*State Approved Course Name:*	*State Approved Description:*	*CIP Code*
Level 1	*Introduction to Agriculture (A & B)*	*An introductory course for first year agriculture education students. This course introduces students to the foundational principles of agriculture, food and natural resources. Students will gain knowledge in career development, leadership, personal development, communications, animal science, plant science, natural resources, food science, power/structure and agribusiness.*	*109999*
Level 2	*Principles of Plant Science (A & B)*	*Plant Science provides students with knowledge and information about the growth, development, and reproduction of plants used for food, fiber, and beautification. Topics may include plant anatomy and physiology, plant growth processes such as photosynthesis, propagation (reproduction) methods, taxonomy and classification, and plant identification. The course will also highlight developing communication skills, leadership skills, and incorporate a survey of the careers within the plant science industry. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts*	*109999*
Level 2	*Principles of Horticulture Science (A & B)*	*This course is designed to introduce students to the horticulture industry. Major units of instruction include horticulture research, horticultural careers, plant anatomy, seed germination, plant propagation, growing media, pest management, hydroponics, identifying horticultural plants, soil science, growing greenhouse crops. Improving industry standard workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience*	*109999*

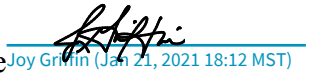
		(SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.	
Level 3	*Greenhouse Production*	*This advanced course offers instruction in greenhouse production. Units of study include plant identification, greenhouse management, integrated pest management, propagation, growing media, growing greenhouse crops, horticulture mechanics, Agribusiness units will cover operating a horticultural business, pricing work, advertising, and sales. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts.*	*10999*
Level 3	*Floriculture (A & B)*	*This course continues to introduce students to the horticulture industry. Major units of instruction include horticulture research, horticultural careers, plant anatomy, seed germination, plant propagation, growing media, pest management, hydroponics, identifying horticultural plants, soil science, growing greenhouse crops. Improving industry standard workplace skills will be a focus. Participation in FFA student organization activities and Supervised Agricultural Experience (SAE) projects is an integral course component for leadership development, career exploration and reinforcement of academic concepts*	*109999*
Level 4	*Ag Leadership*	*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.*	*109999*
Level 4	*Work-based Learning (WBL)*	*This course is designed to prepare students to enter the workforce through on-the-job training in the form of a work-based learning experience and may be combined with class instruction. Students will build on prior knowledge and skills in the program of study aligned to their career*	*109999*

		and academic plan to further develop and apply employability and technical skills that prepare them for success in future career and postsecondary education. Students will have the opportunity to develop skills in supervised practical experience on the job or in a classroom-based job environment. A personalized learning plan is a requirement of this course.	

Signature Page

Does the Career and Technical Education (CTE) Coordinator approve adoption of this program?

*** Your signature below indicates your approval of the program.*

Signature  Joy Griffin (Jan 21, 2021 18:12 MST)

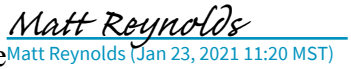
Does the Director of CIPG approve adoption of this program?

*** Your signature below indicates your approval of the program.*

Signature  Erica Mason (Jan 22, 2021 18:22 MST)

Does the Chief Assessment Officer approve adoption of this program?

*** Your signature below indicates your approval of the program.*

Signature  Matt Reynolds (Jan 23, 2021 11:20 MST)

Does the Assistant Superintendent approve adoption of this program?

*** Your signature below indicates your approval of the program.*

Signature 

Does the Board of Education approve adoption of this program?	Yes	No

Date of BOE Meeting _____

Signature _____

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 Graduation Competencies 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:	