This document crosswalks the definition of global competence, as defined by the Asia Society (http://asiasociety.org/files/book-globalcompetence.pdf) to the Common Career Technical Core (CCTC), a state-led initiative to establish a set of rigorous, high-quality standards for Career Technical Education, managed by Advance CTE (https://www.careertech.org/cctc). The definition of global competence and the CCTC were developed separately by state education leaders as well as diverse groups of teachers, business and industry experts, administrators, and researchers.

* Please note, if the URL links do not work, copy and paste them into your browser.

Agriculture, Food, & Natural Resources Career Cluster© (AG)

Cluster Element		Investigate the World	Recognize Perspectives	Communicate Ideas	Take Action	International Application	Resources
1	Analyze how issues, trends, technologies, and public policies impact systems in the Agriculture, Food, & Natural Resources Career Cluster™.	X	X	X		Activity for students on contemporary American Indian land issues	http://www.lessonsofourland.org/lessons/natural-resource-management-stewardship-land
2	Evaluate the nature and scope of the Agriculture, Food, & Natural Resources Career Cluster™ and the role of agriculture, food, and natural resources (AFNR) in society and the economy.	X	X	X		Have students explore global food security issues through the World Food Prize program.	http://www.worldfoodprize.org/en/youth_programs/state_youth_institutes/
3	Examine and summarize the importance of health, safety, and environmental management systems in AFNR businesses.	X					
4	Demonstrate stewardship of natural resources in AFNR activities.	X	X	X	X	Activity for students on contemporary American Indian land issues	http://www.lessonsofourland.org/lessons/natural-resource-management-stewardship-land
5	Describe career opportunities and means to achieve those opportunities in each of the Agriculture, Food, & Natural Resources Career Pathways.			X		Have students investigate job opportunities and think about the global skills required.	http://www.environmentalscience.org/careers/agriculture-and-forestry
6	Analyze the interaction among AFNR systems in the production, processing, and management of food, fiber, and fuel and the sustainable use of natural resources.	X		X			

Agribusiness Systems Career Pathway (AG-BIZ)

Cluster Element		Investigate the World	Recognize Perspectives	Communicate Ideas	Take Action	International Application	Resources
1	Apply management planning principles in AFNR businesses.		X			Agritourism. This is becoming a growth industry in many parts of the world, including in the United States, Italy, the Philippines, and Australia. How would you create a business plan for a farm or ranch stay in each of these markets? What laws and regulations exist regarding tourist participation in food production? Think about how you would market a farm or ranch stay in each of these	http://sfp.ucdavis.edu/agritourism/planners/
2	Use record keeping to accomplish AFNR business objectives, manage budgets, and comply with laws and regulations.	X					http://www.visitmyphilippines.com/index.php?title=RulesandRegulationsGoverningAgri-tourismSites&func=all&pid=1626&tbl=1
3	Manage cash budgets, credit budgets, and credit for an AFNR business using generally accepted accounting principles.						http://c.ymcdn.com/sites/www.agrifoodskills.net.au/resource/resmgr/fellowship_reports/iss_fel_report_p_porcaro_low.pdf
4	Develop a business plan for an AFNR business.	X		X			

5	Use sales and marketing principles to accomplish AFNR business objectives.	X		X		countries. Create a budget in each currency for your business.	

Animal Systems Career Pathway (AG-ANI)

Cluster Element		Investigate the World	Recognize Perspectives	Communicate Ideas	Take Action	International Application	Resources
1	Analyze historic and current trends impacting the animal systems industry.	X	X			Mexican Egg Crisis and bird flu: What are the impacts globally?	http://www.washingtonpost.com/world/the_americas/the-great-egg-crisis-hits-mexico/2012/09/02/0f9ae31c-f3b6-11e1-b74c-84ed55e0300b_story.html
2	Utilize best-practice protocols based upon animal behaviors for animal husbandry and welfare.	X				Mad Cow Disease: What regulations have been put into place? As outbreaks continue, what further regulations should be considered?	http://www.centerforfoodsafety.org/issues/1040/mad-cow-disease/timeline-mad-cow-disease-outbreaks#
3	Design and provide proper animal nutrition to achieve desired outcomes for performance, development, reproduction, and/or economic production.						
4	Apply principles of animal reproduction to achieve desired outcomes for performance, development, and/or economic production.					Sustainable animal reproduction around the world.	http://www.ncbi.nlm.nih.gov/books/NBK285723/
5	Evaluate environmental factors affecting animal performance and implement procedures for enhancing performance and animal health.	X	X			World Bacon Shortage: How to keep animals healthy when faced with a global disease.	http://www.necn.com/news/national-international/Bacon-Prices-Pork-Shortage-Mysterious-Virus-Kills-Pigs-Piglets-254418611.html
6	Classify, evaluate, and select animals based on anatomical and physiological characteristics.	X		X			
7	Apply principles of effective animal health care.	X		X			

Environmental Service Systems Career Pathway (AG-ENV)

Cluster Element		Investigate the World	Recognize Perspectives	Communicate Ideas	Take Action	International Application	Resources
1	Use analytical procedures and instruments to manage environmental service systems.						
2	Evaluate the impact of public policies and regulations on environmental service system operations.	X	X			Compare and contrast the environmental policies of the U.S. and China.	https://www.epa.gov/nepa; https://www.sciencedaily.com/news/earth_climate/environmental_policy/

	Cluster Element	Investigate the World	Recognize Perspectives	Communicate Ideas	Take Action	International Application	Resources
3	Develop proposed solutions to environmental issues, problems and applications using scientific principles of meteorology, soil science, hydrology, microbiology, chemistry, and ecology.	X		X	X	Explore how the environmental issues in one region can impact the environment in other regions.	http://www.environmentalscience.org/is-it-safe; https://www.sciencedaily.com/news/earth_climate/environmental_issues/; http://www.livescience.com/environment
4	Demonstrate the operation of environmental service systems (e.g., pollution control, water treatment, wastewater treatment, solid waste management, and energy conservation).	X			X		
5	Use tools, equipment, machinery, and technology common to tasks in environmental service systems.						

Food Products & Processing Systems Career Pathway (AG-FD)

	Cluster Element	Investigate the World	Recognize Perspectives	Communicate Ideas	Take Action	International Application	Resources
1	Develop and implement procedures to ensure safety, sanitation, and quality in food product and processing facilities.	X			X	Compare and contrast U.S. and another country's product and processing practices.	
2	Apply principles of nutrition, biology, microbiology, chemistry, and human behavior to the development of food products.	X	X			Corn syrup and obesity. Consider exports to other countries: does the United States have a responsibility to consider nutrition effects of its exports?	http://www.denverpost.com/2013/09/09/how-america-is-exporting-its-obesity-epidemic/
3	Select and process food products for storage, distribution, and consumption.	X		X	X	Local and regional food systems	http://www.sustainabletable.org/254/local-regional-food-systems
4	Explain the scope of the food industry and the historical and current developments of food products and processing.	X	X			EU has long required GMO labeling. Portland, OR, recently rejected GMO labeling. Explore the issues around GMO labeling and the different opinions in different countries. Create an ad campaign either pro or anti GMO labeling.	http://www.gmo-compass.org/eng/regulation/labelling/93.new_labelling_laws_gm_products_eu.html https://ballotpedia.org/Oregon_Mandatory_Labeling_of_GMOs_Initiative,_Measure_92_(2014)

Natural Resources Systems Career Pathway (AG-NR)

	Cluster Element	Investigate the World	Recognize Perspectives	Communicate Ideas	Take Action	International Application	Resources
1	Plan and conduct natural resource management activities that apply logical, reasoned, and scientifically based solutions to natural resource issues and goals.	X	X			Compare fisheries in Spain, Canada, China, and the U.S. – contrast policies and environmental impact.	Privatization of water in Bolivia: http://www.worldsavvy.org/wsc-resources-pd1-bolivia/ Rising Tensions Over the Nile River Basin: http://static.water.org/docs/curriculums/WaterOrg%20HighCurric15.pdf
2	Analyze the interrelationships between natural resources and humans.	X	X	X		Examine the privatization of water in developing countries.	

		Investigate the World	Recognize Perspectives	Communicate Ideas	Take Action		
3	Develop plans to ensure sustainable production and processing of natural resources.	X	X		X		
4	Demonstrate responsible management procedures and techniques to protect or maintain natural resources.					World Seed Vault	http://www.regjeringen.no/en/dep/lmd/campain/svalbard-global-seed-vault.html?id=462220 World Seed Vault

Plant Systems Career Pathway (AG-PL)

Cluster Element		Investigate the World	Recognize Perspectives	Communicate Ideas	Take Action	International Application	Resources
1	Develop and implement a crop management plan for a given production goal that accounts for environmental factors.	X			X	Compare and contrast U.S. practice with China's on crop rotation, irrigation, and pest management.	
2	Apply the principles of classification, plant anatomy, and plant physiology to plant production and management.	X		X			
3	Propagate, culture, and harvest plants and plant products based on current industry standards.	X					
4	Apply principles of design in plant systems to enhance an environment (e.g., floral, forest, landscape, and farm).						

Power, Structural, & Technical Systems Career Pathway (AG-PST)

Cluster Element		Investigate the World	Recognize Perspectives	Communicate Ideas	Take Action	International Application	Resources
1	Apply physical science principles and engineering applications to solve problems and improve performance in AFNR power, structural, and technical systems.						
2	Operate and maintain AFNR mechanical equipment and power systems.						
3	Service and repair AFNR mechanical equipment and power systems.						
4	Plan, build, and maintain AFNR structures.	X			X	Compare the resources available regionally to plan, build, and maintain structures.	http://echonet.org/echo-news
5	Use control, monitoring, geospatial, and other technologies in AFNR power, structural, and technical systems.	X				Compare the technologies in place in developing nations with those in the U.S.; what role does culture play in technology adoption and adaptation?	http://echonet.org/echo-news