

Alignment Between the Indiana REPA Educator Standards for Career and Technical Education—Agriculture and state and national student and teacher standards for Agriculture

The alignment notations below indicate the content included in state and national standards that is addressed, in whole or in part, by each of the REPA Educator Standards for Career and Technical Education—Agriculture.

Standard 1: Agricultural Business, Economics, Finance, and Marketing	
Agriculture teachers have a broad and comprehensive understanding of agricultural business, economics, finance, and marketing.	
Indiana Academic Standards for Agriculture Education (2014)	Introduction to Agriculture, Food, and Natural Resources (IAFNR): Core Standard 1, Core Standard 7 Agribusiness Management (AM): Core Standards 1– 6, 7.3, 7.4, Core Standard 9
Indiana Academic Standards for Advanced Life Science (Animals, Foods, Plants and Soils) (2014)	Advanced Life Science: Animal (ALSA): Core Standard 5, 6.1, 6.3 Advanced Life Science: Food (ALSF): 7.1, 7.2, 7.4, 8.1, 8.3 Advanced Life Science: Plants and Soils: (ALSPS) 7.1, 7.2, 7.4, 8.1, 8.3
NCAE Agriculture, Food and Natural Resources (AFNR) Standards (2015)	ABS.01. Apply management planning principles in AFNR businesses. ABS.02. Use record keeping to accomplish AFNR business objectives, manage budgets and comply with laws and regulations. ABS.03. Manage cash budgets, credit budgets and credit for an AFNR business using generally accepted accounting principles. ABS.04. Develop a business plan for an AFNR business. ABS.05. Use sales and marketing principles to accomplish AFNR business objectives.
Standard 2: Animal Science	
Agriculture teachers have a broad and comprehensive understanding of animal science.	
Indiana Academic Standards for Agriculture Education (2014)	Introduction to Agriculture, Food, and Natural Resources (IAFNR): Core Standard 6 Animal Science (AS): Core Standards 1–6, Core Standards 8–9
Indiana Academic Standards for Advanced Life Science (Animals, Foods, Plants and Soils) (2014)	Advanced Life Science: Animal (ALSA): Core Standards 1–4
NCAE Agriculture, Food and Natural Resources (AFNR) Standards (2015)	AS.01. Analyze historic and current trends impacting the animal systems industry. AS.02. Utilize best-practice protocols based upon animal behaviors for animal husbandry and welfare. AS.03. Design and provide proper animal nutrition to achieve desired outcomes for performance, development, reproduction and/or economic production. AS.04. Apply principles of animal reproduction to achieve desired outcomes for performance, development and/or economic production. AS.05. Evaluate environmental factors affecting animal performance and implement procedures for enhancing performance and animal health. AS.06. Classify, evaluate and select animals based on anatomical and physiological characteristics. AS.07. Apply principles of effective animal health care. AS.08. Analyze environmental factors associated with animal production.

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Standard 3: Plant and Soil Science	
Agriculture teachers have a broad and comprehensive understanding of plant and soil science.	
Indiana Academic Standards for Agriculture Education (2014)	Introduction to Agriculture, Food, and Natural Resources (IAFNR): Core Standard 4 Plant and Soil Science (PSS): Core Standards 1–9, Core Standards 11–14 Horticultural Science (HS): Core Standard 1–4, Core Standard 7
Indiana Academic Standards for Advanced Life Science (Animals, Foods, Plants and Soils) (2014)	Advanced Life Science: Plants and Soils: (ALSPS): Core Standard 1, 2.8, 2.9, Core Standard 3, 5.9, 7.2, 7.4, 8.2
NCAE Agriculture, Food and Natural Resources (AFNR) Standards (2015)	PS.01. Develop and implement a crop management plan for a given production goal that accounts for environmental factors. PS.02. Apply principles of classification, plant anatomy, and plant physiology to plant production and management. PS.03. Propagate, culture and harvest plants and plant products based on current industry standards. PS.04. Apply principles of design in plant systems to enhance an environment (e.g. floral, forest landscape, and farm).
Standard 4: Food Science	
Agriculture teachers have a broad and comprehensive understanding of food science.	
Indiana Academic Standards for Agriculture Education (2014)	Introduction to Agriculture, Food, and Natural Resources (IAFNR): Core Standard 8 Food Science (FS): Core Standards 1–10
Indiana Academic Standards for Advanced Life Science (Animals, Foods, Plants and Soils) (2014)	Advanced Life Science: Food (ALSF): Core Standards 1–8
NCAE Agriculture, Food and Natural Resources (AFNR) Standards (2015)	FPP.01. Develop and implement procedures to ensure safety, sanitation and quality in food product and processing facilities. FPP.02. Apply principles of nutrition, biology, microbiology, chemistry and human behavior to the development of food products. FPP.03. Select and process food products for storage, distribution and consumption. FPP.04. Explain the scope of the food industry and the historical and current developments of food product and processing.
Standard 5: Genetics and Biotechnology	
Agriculture teachers have a broad and comprehensive understanding of genetics and biotechnology.	
Indiana Academic Standards for Agriculture Education (2014)	Animal Science (AS): Core competency 6 Plant and Soil Science (PSS): Core Standard 2
Indiana Academic Standards for Advanced Life Science (Animals, Foods, Plants and Soils) (2014)	Advanced Life Science: Animal (ALSA): Core Standard 4–5
NCAE Agriculture, Food and Natural Resources (AFNR) Standards (2015)	BS.01. Assess factors that have influenced the evolution of biotechnology in agriculture (e.g., historical events, societal trends, ethical and legal implications, etc.).

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	<p>BS.02. Demonstrate proficiency by safely applying appropriate laboratory skills to complete tasks in a biotechnology research and development environment (e.g., standard operating procedures, record keeping, aseptic technique, equipment maintenance, etc.).</p> <p>BS.03. Demonstrate the application of biotechnology to solve problems in Agriculture, Food and Natural Resources (AFNR) systems (e.g., bioengineering, food processing, waste management, horticulture, forestry, livestock, crops, etc.).</p>
<u>Standard 6: Agricultural Mechanics, Engineering, Construction, and Technology</u> Agriculture teachers have a broad and comprehensive understanding of agricultural mechanics, engineering, construction, and technology.	
Indiana Academic Standards for Agriculture Education (2014)	<p>Introduction to Agriculture, Food, and Natural Resources (IAFNR): Core Standard 10</p> <p>Agriculture Power, Structure, and Technology (APST): Core Standards 2–9</p> <p>Sustainable Energy Alternatives (SEA): Core Standards 1–7</p>
Indiana Academic Standards for Advanced Life Science (Animals, Foods, Plants and Soils) (2014)	
NCAE Agriculture, Food and Natural Resources (AFNR) Standards (2015)	<p>PST.01. Apply physical science principles and engineering applications to solve problems and improve performance in AFNR power, structural and technical systems.</p> <p>PST.02. Operate and maintain AFNR mechanical equipment and power systems.</p> <p>PST.03. Service and repair AFNR mechanical equipment and power systems.</p> <p>PST.04. Plan, build and maintain AFNR structures.</p> <p>PST.05. Use control, monitoring, geospatial and other technologies in AFNR power, structural and technical systems.</p>
<u>Standard 7: Environmental Science and Natural Resources Management</u> Agriculture teachers have a broad and comprehensive understanding of environmental science and natural resources management.	
Indiana Academic Standards for Agriculture Education (2014)	<p>Introduction to Agriculture, Food, and Natural Resources (IAFNR): Core Standard 5</p> <p>Natural Resources (NR): Core Standard 1, 2.2, Core Standard 3, Core Standards 5–10</p> <p>Sustainable Energy Alternatives (SEA): Core Standard 1, Core Standard 6–7</p>
Indiana Academic Standards for Advanced Life Science (Animals, Foods, Plants and Soils) (2014)	
NCAE Agriculture, Food and Natural Resources (AFNR) Standards (2015)	<p>ESS.01. Use analytical procedures and instruments to manage environmental service systems.</p> <p>ESS.02. Evaluate the impact of public policies and regulations on environmental service system operations.</p> <p>ESS.03. Develop proposed solutions to environmental issues, problems and applications using scientific principles of meteorology, soil science, hydrology, microbiology, chemistry and ecology.</p>

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	<p>ESS.04. Demonstrate the operation of environmental service systems (e.g., pollution control, water treatment, wastewater treatment, solid waste management and energy conservation).</p> <p>ESS.05. Use tools, equipment, machinery and technology common to tasks in environmental service systems.</p> <p>NRS.01. Plan and conduct natural resource management activities that apply logical, reasoned and scientifically based solutions to natural resource issues and goals.</p> <p>NRS.02.01. Analyze the interrelationships between natural resources and humans.</p> <p>NRS.03. Develop plans to ensure sustainable production and processing of natural resources.</p> <p>NRS.04. Demonstrate responsible management procedures and techniques to protect, maintain, enhance, and improve natural resources.</p> <p>CS.04. Demonstrate stewardship of natural resources in AFNR activities.</p>
Standard 8: Core Knowledge and Skills for Agriculture Teachers Agriculture teachers have a broad and comprehensive understanding of core knowledge and skills for agriculture teachers.	
Indiana Academic Standards for Agriculture Education (2014)	<p>Introduction to Agriculture, Food, and Natural Resources (IAFNR): Core Standard 1</p> <p>Agribusiness Management (AM): Core Standards 9</p> <p>Animal Science (AS): Core Standard 10</p> <p>Plant and Soil Sciences (PSS): Core Standard 16</p> <p>Horticultural Science (HS): Core Standard 8</p> <p>Agriculture Power, Structure, and Technology (APST): Core Standard 10</p> <p>Natural Resources (NR): Core Standard 10</p> <p>Food Science (FS): Core Standard 11</p> <p>Sustainable Energy Alternatives (SEA): Core Standard 7</p> <p>Content Area Literacy: Science/Technical Subjects: LST.1– LST.7</p>
Indiana Academic Standards for Advanced Life Science (Animals, Foods, Plants and Soils) (2014)	<p>Advanced Life Science: Animals (ALSA): Core Standard 6</p> <p>Advanced Life Science: Plants and Soils (ALSPS): Core Standard 7</p> <p>Advanced Life Science: Food (ALSF): Core Standard 7</p>
NCAE Agriculture, Food and Natural Resources (AFNR) Standards (2015)	<p>CS.01: Analyze how issues, trends, technologies and public policies impact systems in the Agriculture, Food, and Natural Resources Career Cluster.</p> <p>CS.02: Evaluate the nature and scope of the Agriculture, Food, and Natural Resources Career Cluster and the role of agriculture, food, and natural resources (AFNR) in society and the economy.</p> <p>CS.05. Describe career opportunities and means to achieve those opportunities in each of the Agriculture, Food, and Natural Resources career pathways.</p>
Standard 9: Agricultural Education Program Agriculture teachers have a broad and comprehensive understanding of the three-part agricultural education program model.	
Indiana Academic Standards for Agriculture Education (2014)	<p>Introduction to Agriculture, Food, and Natural Resources (IAFNR): Core Standards 2–3</p> <p>Agribusiness Management (AM): Core Standards 10–11</p> <p>Plant and Soil Science (PSS): Core Standards 17–18</p>

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	Animal Science (AS): Core Standards 11–12 Horticultural Science (HS): Core Standards 9–10 Agriculture Power, Structure, and Technology (APST): Core Standards 11–12 Natural Resources (NR): Core Standards 11–12 Food Science (FS): Core Standards 12–13 Sustainable Energy Alternatives (SEA): Core Standards 8–9 Supervised Agriculture Experience (SAE): A–K
Indiana Academic Standards for Advanced Life Science (Animals, Foods, Plants and Soils) (2014)	Advanced Life Science: Animal (ALSA): Core Standards 6–7 Advanced Life Science: Plants and Soils: (ALSPS): Core Standards 8–9 Advanced Life Science: Food (ALSF): 8.2
NCAE Agriculture, Food and Natural Resources (AFNR) Standards (2015)	CS.05. Describe career opportunities and means to achieve those opportunities in each of the Agriculture, Food & Natural Resources career pathways.
<u>Standard 10: Agriculture Instruction and Assessment</u> Agriculture teachers have a broad and comprehensive understanding of instruction and assessment in career and technical education and agricultural education.	
Indiana Academic Standards for Agriculture Education (2014)	
Indiana Academic Standards for Advanced Life Science (Animals, Foods, Plants and Soils) (2014)	
NCAE Agriculture, Food and Natural Resources (AFNR) Standards (2015)	