



AGRICULTURE, FOOD AND NATURAL RESOURCES CAREER CLUSTER DESIGN

Agribusiness Systems Pathway

CIP CODE 01.0101

APPROVED PATHWAY:

1. Includes a minimum of three secondary-level credits.
2. Includes a work-based element.
3. Consist of a sequence:
 - Introductory-level course.
 - Technical-level course.
 - Application-level course.
4. Supporting documentation includes:
 - Articulation Agreement(s).
 - Certification.
 - Program Improvement Plan.
 - Program of Study.
5. Technical-level and Application-level courses receive .5 state weighted funding in an approved CTE pathway.

INTRODUCTORY LEVEL

Title	Code	Credit
* ● Introduction to Agriculture	18001	1
* ● Exploratory Agriculture	68001	1

TECHNICAL LEVEL

Title	Code	Credit
Agriscience	18002	1
* Agribusiness	18201	1

APPLICATION LEVEL

Title	Code	Credit
Internship	18048	1
Advanced Internship	18049	1
* Applications in Agribusiness	18220	1
Agricultural Entrepreneurship	18202	1
Agricultural Leadership and Communications	18203	1
Research in Agriculture	18206	1

Cluster Review Committee Recommendation is to Discontinue Pathway

- * Required courses in pathway approval.
- Must choose **ONE** of the required courses in Introductory Level for pathway approval.

Cluster Review Recommendations Rationale:

- Limited participation:
 - Only 17 Districts have an approved or pending Agribusiness pathway for 24-25.
 - Only 17 Districts had an approved Agribusiness pathway in 23-24. 17 out 654 total Agriculture pathways (2.6%).
 - Only 17 Districts had an approved Agribusiness pathway in 22-23, 21-22, 20-21.
- Only two pathway specific courses:
 - 18201 Agricultural Business – Previous three-year enrollment average was limited when compared total enrollments in Ag pathway courses. It should be noted that this course has been offered and most likely taken as a part of all pathways.
 - This course will continue to be included in all the Agriculture Pathways.
 - 18220 Applications in Agribusiness – Previous three-year enrollment average VERY LOW when compared total enrollments in Ag pathway courses.
- Many competencies are reflected in courses in other pathways:
 - 12 competencies in the NEW Capstone in Agricultural Science are directly related to Agricultural Business.
 - Competencies directly related to Agricultural Business are in 68001 “Exploratory Agriculture” and 18001 “Introduction to Agriculture” are directly related to Agricultural Business.
 - Skills directly related to Agricultural Business are taught and put into practice through FFA Career Development Events and through Supervised Agricultural Experiences (SAE) with entrepreneurship, workplace placement, and research projects that students keep business financial records and evaluate economic value of their efforts.
- Labor market information:
 - While SOC 11-9013 “Farmers, Ranchers, and Agricultural Managers” is listed as high wage, high demand occupation, and could be associated with the Agribusiness pathway, there is no specific degree, certification of course work associated with this SOC.



AGRICULTURE, FOOD AND NATURAL RESOURCES CAREER CLUSTER DESIGN

Biotechnology in Agriculture Pathway

CIP CODE 26.1201

APPROVED PATHWAY:

- Includes a minimum of three secondary-level credits.
- Includes a work-based element.
- Consist of a sequence:
 - Introductory-level course.
 - Technical-level course.
 - Application-level course.
- Supporting documentation includes:
 - Articulation Agreement(s).
 - Certification.
 - Program Improvement Plan.
 - Program of Study.
- Technical-level and Application-level courses receive .5 state weighted funding in an approved CTE pathway.

INTRODUCTORY LEVEL

Title	Code	Credit
* • Introduction to Agriculture	18001	1
* • Exploratory Agriculture	68001	1

TECHNICAL LEVEL

Title	Code	Credit
Agriscience	18002	1
Agricultural Food Science	18305	1
Animal Science	18101	1
* Biotechnology in Agriculture	18308	1
Horticulture	18052	1
Plant and Soil Science	18058	1

APPLICATION LEVEL

Title	Code	Credit
Agricultural Business	18201	1
Agricultural Entrepreneurship	18202	1
Agricultural Leadership and Communications	18203	1
* Applications in Biotechnology	18320	1
Research in Agriculture	18206	1
Internship	18048	1
Advanced Internship	18049	1

Cluster Review Committee Recommendation is to Discontinue Pathway

- * Required courses in pathway approval.
- Must choose **ONE** Application Level course for pathway approval.

Cluster Review Recommendations Rationale:

- Very Limited participation:
 - Only 1 District has an approved or pending Biotechnology in Agriculture pathway for 24-25.
 - Only 1 District had an approved Biotechnology in Agriculture pathway in 23-24. 1 out 654 total Agriculture pathways (0.15%.)
- Only two pathway specific courses:
 - 18308 Biotechnology in Agriculture – Previous three-year enrollment average VERY LOW when compared total enrollments in Ag pathway courses. It should be noted that this course has been offered as a part of Comprehensive Ag Science pathway.
 - This course will continue to be included in Diversified Agricultural Science and Animal Science, Health and Related Industries Pathways.
 - 18320 Applications in Biotechnology in Agriculture – Previous three-year enrollment was **zero** in Ag pathway courses.
- Many competencies are reflected in courses in other pathways:
 - 6 competencies in the NEW Capstone in Agricultural Science are directly related to Biotechnology in Agriculture.
 - Competencies directly related to Biotechnology in Agriculture are in the NEW “Agricultural Engineering and Technology,” 68001 “Exploratory Agriculture,” and 18001 “Introduction to Agriculture.”
 - 18320 to be continued in Biotechnology pathway within the Health and Bio Sciences Cluster.



APPROVED PATHWAY:

1. Includes a minimum of three secondary-level credits.
2. Includes a work-based element.
3. Consist of a sequence:
 - Introductory-level course.
 - Technical-level course.
 - Application-level course.
4. Supporting documentation includes:
 - Articulation Agreement(s).
 - Certification.
 - Program Improvement Plan.
 - Program of Study.
5. Technical-level and Application-level courses receive .5 state weighted funding in an approved CTE pathway.

AGRICULTURE, FOOD AND NATURAL RESOURCES CAREER CLUSTER DESIGN

Food Products and Processing Systems Pathway

CIP CODE 01.0401

INTRODUCTORY LEVEL

Title	Code	Credit
* ● Introduction to Agriculture	18001	1
* ● Exploratory Agriculture	68001	1

TECHNICAL LEVEL

Title	Code	Credit
* Agriscience	18002	1
* Horticulture	18052	1
* Plant and Soil Science	18058	1
* Animal Science	18101	1
* ● Agricultural Food Science	18305	1
* ● Food Science	19254	1

APPLICATION LEVEL

Title	Code	Credit
Internship	18048	1
Advanced Internship	18049	1
Agricultural Business	18201	1
Agricultural Entrepreneurship	18202	1
Agricultural Leadership and Communications	18203	1
Research in Agriculture	18206	1
* Advanced Food Science	18317	1

Cluster Review Committee Recommendation is to Discontinue Pathway

- * Required courses in pathway approval.
- Must choose **ONE** of these Application Level courses and of these **ONE** Technical Level courses for pathway approval.

Cluster Review Recommendations Rationale:

- Limited participation:
 - Only 17 District have an approved or pending Food Products and Processing Systems pathway for 24-25.
 - Only 21 District had an approved Food Products and Processing Systems pathway in 23-24. 21 out 654 total Agriculture pathways (3.2%).
 - Ten-year average is 12.8 Districts with an approved Food Products and Processing Systems pathway since 2014-15.
- Only two pathway specific courses:
 - 18305 Agricultural Food Science – Previous three-year enrollment average was limited when compared total enrollments in Ag pathway courses. It should be noted that this course has been offered as a part of Comprehensive Ag Science pathway, and Biotechnology in Agriculture, as well as in the Biomedical pathway.
 - This course will continue to be included in Diversified Agricultural Science and Animal Science, Health and Related Industries Pathways.
 - 18317 Advanced Food Science – Previous three-year enrollment average VERY LOW when compared total enrollments in Ag pathway courses.
- Many competencies are reflected in courses in other pathways:
 - Competencies directly related to Food Products and Processing Systems are in 18002 “Agriscience,” 68001 “Exploratory Agriculture,” 18001 “Introduction to Agriculture,” 18101 “Animal Science,” 18103 “Advanced Animal Science,” and 18301 “Plant and Animal Science.”
 - Competencies directly related Food Products and Processing Systems are included in the Health and Bio Sciences cluster and the Restaurant and Event Management cluster.
- Labor market information:
 - While there are a number of careers within Food Products and Processing Systems, most of the Food Products jobs in Kansas are more closely related to Food Service and Food Manufacturing.
 - The newly revised competencies within Agriculture pathway courses are more closely connected to those jobs shown as high demand including those with SOC codes connected to 51-3000 “Food Processing Workers” – Butchers and Meat cutters, Meat Packers, and Meat and Poultry Cutters and Trimmers.