Kansas Career Cluster Guidance Handbook 2026-2027

KANSAS CAREER AND TECHNICAL EDUCATION

KANSAS CAREER CLUSTER PATHWAY DESIGN MODELS



KANSAS STATE DEPARTMENT OF EDUCATION

Kansas leads the world in the success of each student.

Oct. 1, 2025

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Kansas Career and Technical Education

Learning that works for Kansas

The term "career and technical education" means organized educational activities that—

(A) offer a sequence of courses that—

(i) provides individuals with rigorous academic content and relevant technical knowledge and skills needed to prepare for further education and careers in current or emerging professions, which may include high-skill, high-wage, or in-demand industry sectors or occupations, which shall be, at the secondary level, aligned with the challenging State academic standards adopted by a State under section 6311(b)(1) of this title;

(ii) provides technical skill proficiency or a recognized postsecondary credential, which may include an industry-recognized credential, a certificate, or an associate degree; and

(iii) may include prerequisite courses (other than a remedial course) that meet the requirements of this subparagraph;

(B) include competency-based, work-based, or other applied learning that supports the development of academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of an industry, including entrepreneurship, of an individual;

(C) to the extent practicable, coordinate between secondary and postsecondary education programs through programs of study, which may include coordination through articulation agreements, early college high school programs, dual or concurrent enrollment program opportunities, or other credit transfer agreements that provide postsecondary credit or advanced standing; and

(D) may include career exploration at the high school level or as early as the middle grades (as such term is defined in section 7801 of this title).

20 USC Ch. 44: CAREER AND TECHNICAL EDUCATION[1]

- Common Career Technical Core and CTE Course Competencies (website)[2]

1 *20 USC Ch. 44: CAREER AND TECHNICAL EDUCATION*. (n.d.-b). *https://uscode.house.gov/view.xhtml*?path=/prelim@title20/chapter44&edition=prelim

2 Kansas State Department of Education [KSDE]. *CTE Course Competencies and Indicators*. *https://KSDE.gov/*Agency/Division-of-Learning-Services/Career-Standards-and-Assessment-Services/CSAS-Home/Career-Technical-Education-CTE/CTE-Course-Competencies-and-Indicators

KANSAS CAREER AND TECHNICAL EDUCATION

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Kansas CTE Career Pathways Infographics

The following three pages contain the Kansas Career and Technical Education (CTE) pathways infographics.

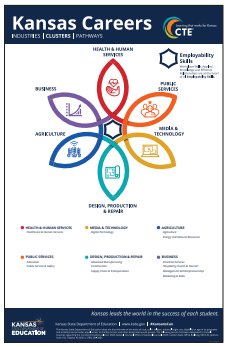
Elementary Version

- Six Industries.



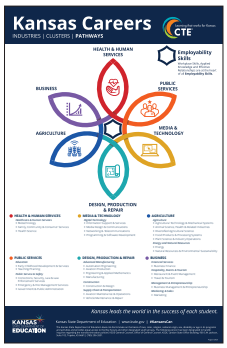
Middle School Version

- Six Industries.
- Thirteen Career Clusters.



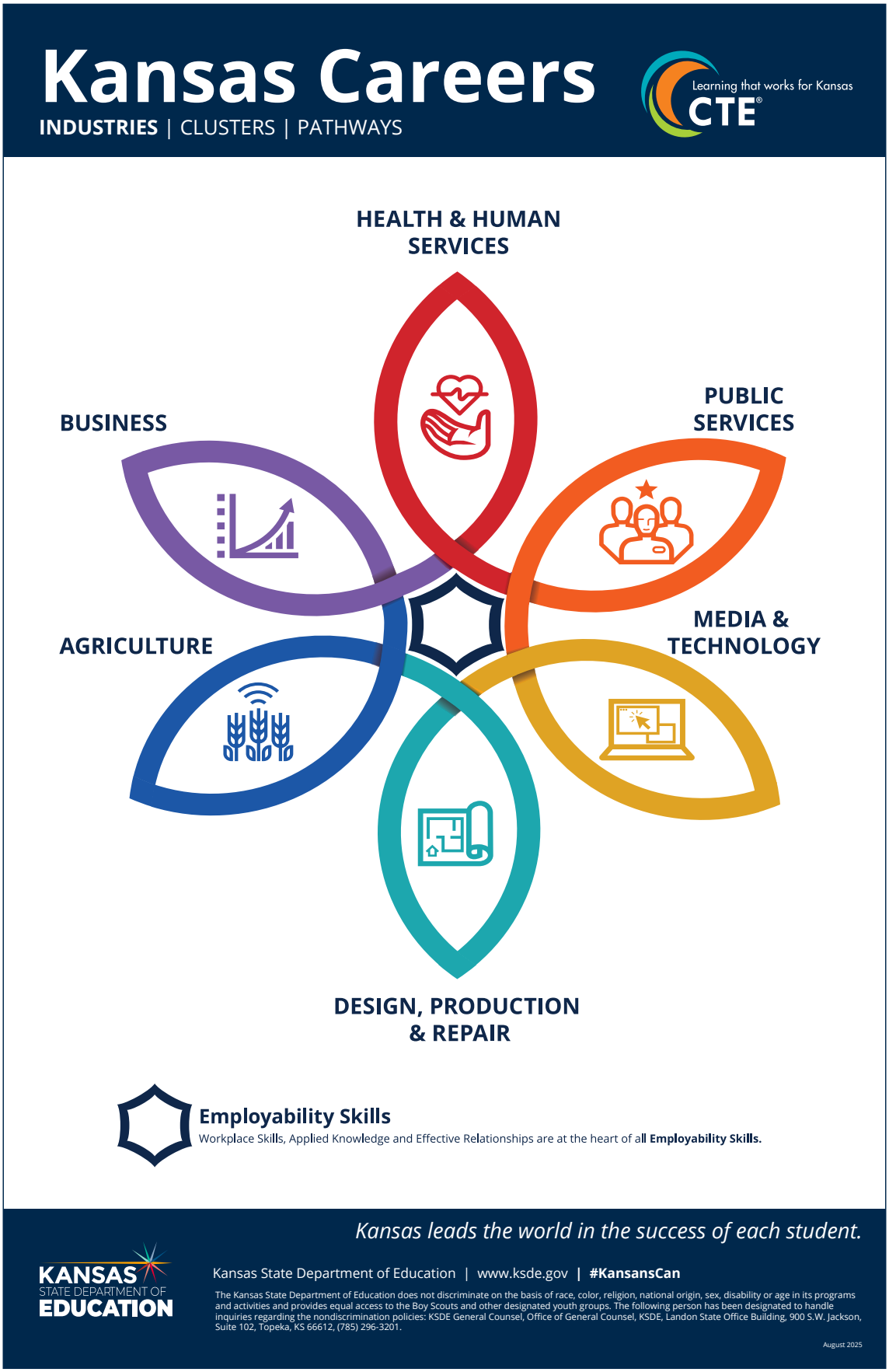
Secondary Version

- Six Industries.
- Thirteen Career Clusters.
- Thirty-one Pathways.



INFOGRAPHICS

Elementary School Level Graphic



Middle School Level Graphic



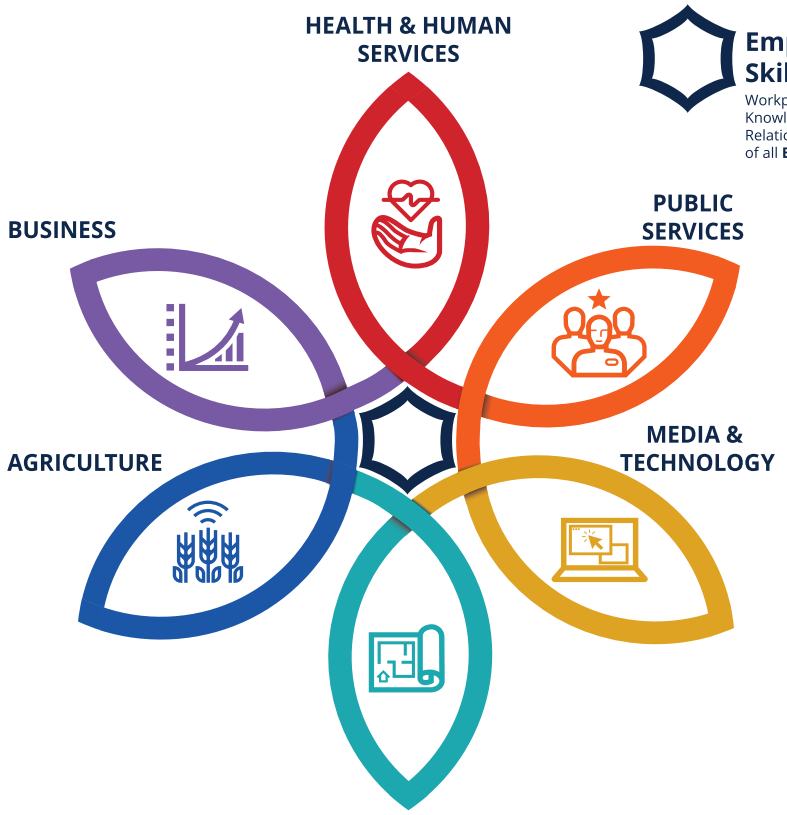
INFOGRAPHICS

Secondary School Level Graphic

Kansas Careers

INDUSTRIES | CLUSTERS | **PATHWAYS**

Learning that works for Kansas CTE®



Employability Skills

Workplace Skills, Applied Knowledge and Effective Relationships are at the heart of all **Employability Skills.**

HEALTH & HUMAN SERVICES

Healthcare & Human Services
- Biotechnology
- Family, Community & Consumer Services
- Health Science

MEDIA & TECHNOLOGY

Digital Technology
- Information Support & Services
- Media Design & Communications
- Networking & Telecommunications
- Programming & Software Development

AGRICULTURE

Agriculture
- Agricultural Technology & Mechanical Systems
- Animal Science, Health & Related Industries
- Diversified Agricultural Science
- Food Products & Processing Systems
- Plant Science & Industry Operations

Energy and Natural Resources
- Energy
- Natural Resources & Environmental Sustainability

PUBLIC SERVICES

Education
- Early Childhood Development & Services
- Teaching/Training

Public Service & Safety
- Corrections, Security, Law & Law Enforcement Services
- Emergency & Fire Management Services
- Government & Public Administration

DESIGN, PRODUCTION & REPAIR

Advanced Manufacturing
- Automation Engineering
- Aviation Production
- Engineering & Applied Mathematics
- Manufacturing

Construction
- Construction & Design

Supply Chain & Transportation
- Aviation Maintenance & Operations
- Vehicle Maintenance & Repair

BUSINESS

Financial Services
- Business Finance

Hospitality, Events & Tourism
- Restaurant & Event Management
- Travel & Tourism

Management & Entrepreneurship
- Business Management & Entrepreneurship

Marketing & Sales
- Marketing

Kansas leads the world in the success of each student.

KANSAS STATE DEPARTMENT OF EDUCATION

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August 2025

Kansas Secondary CTE Contacts

CAREER AND TECHNICAL EDUCATION

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INDUSTRIES | *Cluster* | Pathway

AGRICULTURE

Agriculture

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Energy and Natural Resources

- Energy Pathway

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- Natural Resources and Environmental Sustainability Pathway

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Hospitality & Tourism

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DESIGN, PRODUCTION & REPAIR

Advanced Manufacturing
Construction
Supply Chain & Transportation

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HEALTH & HUMAN SERVICES

Healthcare & Human Services Career Cluster Design

- Biotechnical Pathway
- Health Science Pathway

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- Family, Community & Consumer Services Pathway

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MEDIA & TECHNOLOGY

Digital Technology

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PUBLIC SERVICES

Education Career Cluster Design

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Public Service & Safety

- Corrections, Security, Law & Law Enforcement Services Pathway
- Emergency & Fire Management Services Pathway

Kevin Bronson
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- Government & Public Administration Pathway

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KSDE SECONDARY LEVEL CTE CONTACTS

CAREER AND TECHNICAL STUDENT ORGANIZATIONS (CTSO)

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CARL D. PERKINS

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kathy.camarena@ksde.gov

Office of Civil Rights Visits

Andy Ewing
(785) 296-3860
andy.ewing@ksde.gov

RELATED AREAS

K-12 Career Development

Kent Reed
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kent.reed@ksde.gov

Kansas Course Code Management System (KCCMS)

kccms@ksde.gov

Kansas Individual Data on Students (KIDS)

kids@ksde.gov

Pathways Authenticated Application Assistance

pathwayshelpdesk@ksde.gov

KIDS Student Course Data Submission (KCAN)

kids@ksde.gov

Educator Data Collection System (EDCS)

Shane Carter
(785) 296-2289
shane.carter@ksde.gov

Kansas Career Cluster Pathways

Pathway Classification of Instructional Program (CIP) Codes

Nontraditional female pathway.

Nontraditional male pathway.

AGRICULTURE

Agriculture Career Cluster Design

- Agricultural Technology and Mechanical Systems Pathway 01.0201
- Animal Science, Health and Related Industries Pathway 01.0901
- Diversified Agricultural Science Pathway 01.0000
- Food Products and Processing Systems Pathway 01.0401
- Plant Science and Industry Operations Pathway 01.1101

Energy and Natural Resources Career Cluster Design

- Energy Pathway 14.4801
- Natural Resources and Environmental Sustainability Pathway 03.0101

BUSINESS

Management and Entrepreneurship Career Cluster Design

- Business Management and Entrepreneurship Pathway 52.0799

Financial Services Career Cluster Design

- Business Finance Pathway 52.0801

Marketing and Sales Career Cluster Design

- Marketing Pathway 52.1402

Hospitality, Events and Tourism Career Cluster Design

- Restaurant and Event Management Pathway 12.0504
- Travel and Tourism Pathway 52.0901

KANSAS CAREER CLUSTER PATHWAYS

♀ Nontraditional female pathway.

♂ Nontraditional male pathway.



DESIGN, PRODUCTION AND REPAIR

Advanced Manufacturing Career Cluster Design

- ♀ Automation Engineering Pathway _____ 15.0406
- ♀ Aviation Production Pathway _____ 15.0000
- ♀ Engineering and Applied Mathematics Pathway _____ 14.0101
- ♀ Manufacturing Pathway _____ 48.0000

Construction Career Cluster Design

- ♀ Construction and Design Pathway _____ 46.0000

Supply Chain and Transportation Career Cluster Design

- ♀ Aviation Maintenance and Operations Pathway _____ 47.0607
- ♀ Vehicle Maintenance and Repair Pathway _____ 47.0600



HEALTH AND HUMAN SERVICES

Healthcare and Human Services Career Cluster Design

- Biotechnology Pathway _____ 26.1201
- ♂ Health Science Pathway _____ 51.3901
- Family, Community and Consumer Services Pathway _____ 44.000



MEDIA AND TECHNOLOGY

Digital Technology Career Cluster Design

- ♀ Information Support and Services Pathway _____ 11.0301
- Media Design and Communications Pathway _____ 11.0801
- ♀ Networking and Telecommunications Pathway _____ 11.0901
- ♀ Programming and Software Development Pathway _____ 11.0201



PUBLIC SERVICES

Education Career Cluster Design

- ♂ Early Childhood Development and Services Pathway _____ 19.0709
- ♂ Teaching/Training Pathway _____ 13.0101

Public Service and Safety Career Cluster Design

- ♀ Corrections, Security, Law and Law Enforcement Services Pathway _____ 43.0199
- ♀ Emergency and Fire Management Services Pathway _____ 43.0299
- ♀ Government and Public Administration Pathway _____ 44.0401

AGRICULTURE



KANSAS CAREER PATHWAYS

AGRICULTURE CAREER CLUSTER DESIGN

Agricultural Technology and Mechanical Systems Pathway

CIP CODE 01.0201

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Introduction to Agriculture	18001	1	Choose one course 18001 or 68001.
Agriculture Explorations I (Middle School)	68001	0.5	Choose one course 18001 or 68001.
Agriculture Explorations II (Middle School)	68002	0.5	Prerequisite course required; see competency profile. Can not be taught without 68001 in the pathway.

TECHNICAL LEVEL

Title	Code	Credit	Special Considerations
Agriscience	18002	1	
Agricultural Mechanics	18401	1	Choose one course from this section: 18401, 18404, 39207 or 18410.
Agricultural Welding I	18404	1	Choose one course from this section: 18401, 18404, 39207 or 18410. Choose 18404 or 39207, not both.
Welding Processes I	39207	1	Choose one course from this section: 18401, 18404, 39207 or 18410. Choose 18404 or 39207, not both.
Small Power Systems	18410	1	Choose one course from this section: 18401, 18404, 39207 or 18410.

APPLICATION LEVEL

Title	Code	Credit	Special Considerations
Agricultural Internship	18048	1	
Advanced Agricultural Internship	18049	1	
Agribusiness Management	18201	1	
Agricultural Entrepreneurship	18202	1	
Agricultural Leadership & Communications	18203	1	
Research in Agriculture	18206	1	

*Choose **one course** from below for pathway approval.*

Title	Code	Credit	Special Considerations
Advanced Agricultural Mechanics	18402	1	Prerequisite course required; see competency profile.
Agricultural Construction	18403	1	
Agricultural Welding II	18407	1	Choose 18407 or 39208, not both. Prerequisite course required; see competency profile.
Welding Processes II	39208	1	Choose 18407 or 39208, not both. Prerequisite course required; see competency profile.
Agricultural Fabrication	18409	1	
Advanced Agricultural Power	18411	1	Prerequisite course required; see competency profile.
Agricultural Engineering & Technology	18415	1	

APPROVED PATHWAY:

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

Animal Science, Health and Related Industries Pathway

CIP CODE 01.0901

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Introduction to Agriculture	18001	1	Choose one course 18001 or 68001.
Agriculture Explorations I (Middle School)	68001	0.5	Choose one course 18001 or 68001.
Agriculture Explorations II (Middle School)	68002	0.5	Prerequisite course required; see competency profile. Can not be taught without 68001 in the pathway.

TECHNICAL LEVEL

Title	Code	Credit	Special Considerations
Agriscience	18002	1	
Animal Science	18101	1	Required course for pathway approval.
Plant & Animal Science	18301	1	
Agricultural Food Science	18305	1	
Agricultural Biotechnology	18308	1	

APPLICATION LEVEL

Title	Code	Credit	Special Considerations
Agricultural Internship	18048	1	
Agribusiness Management	18201	1	
Agricultural Entrepreneurship	18202	1	
Agricultural Leadership & Communications	18203	1	
Research in Agriculture	18206	1	
Advanced Plant & Animal Science	18302	1	Prerequisite course required; see competency profile.

*Choose **one course** from below for pathway approval.*

Title	Code	Credit	Special Considerations
Small Animal Care	18102	1	
Advanced Animal Science	18103	1	Prerequisite course required; see competency profile.
Equine Science	18104	1	
Animal Health	18105	1	

APPROVED PATHWAY:

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

Diversified Agricultural Science Pathway

CIP CODE 01.0000

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Introduction to Agriculture	18001	1	Choose one course 18001 or 68001.
Agriculture Explorations I (Middle School)	68001	0.5	Choose one course 18001 or 68001.
Agriculture Explorations II (Middle School)	68002	0.5	Prerequisite course required; see competency profile. Can not be taught without 68001 in the pathway.

TECHNICAL LEVEL

Title	Code	Credit	Special Considerations
Agriscience	18002	1	
Horticulture	18052	1	
Plant & Soil Science	18058	1	
Animal Science	18101	1	
Plant & Animal Science	18301	1	
Agricultural Food Science	18305	1	
Agricultural Biotechnology	18308	1	
Agricultural Mechanics	18401	1	
Agricultural Welding I	18404	1	Choose 18404 or 39207, not both.
Welding Processes I	39207	1	Choose 18404 or 39207, not both.
Small Power Systems	18410	1	
Natural Resource Management	18504	1	

APPLICATION LEVEL

Title	Code	Credit	Special Considerations
Capstone in Agriculture	18003	1	
Agricultural Internship	18048	1	
Small Animal Care	18102	1	
Equine Science	18104	1	
Agribusiness Management	18201	1	
Agricultural Entrepreneurship	18202	1	
Agricultural Leadership & Communications	18203	1	
Research in Agriculture	18206	1	
Advanced Plant & Animal Science	18302	1	Prerequisite course required; see competency profile.
Sustainable/Alternative Agriculture	18310	1	
Agricultural Construction	18403	1	
Agricultural Fabrication	18409	1	
Agricultural Engineering & Technology	18415	1	

APPROVED PATHWAY:

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

Food Products and Processing Systems Pathway

CIP CODE 01.0401

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Introduction to Agriculture	18001	1	Choose one course 18001 or 68001.
Agriculture Explorations I (Middle School)	68001	0.5	Choose one course 18001 or 68001.
Agriculture Explorations II (Middle School)	68002	0.5	Prerequisite course required; see competency profile. Can not be taught without 68001 in the pathway.

TECHNICAL LEVEL

Title	Code	Credit	Special Considerations
Agriscience	18002	1	
Horticulture	18052	1	
Plant & Soil Science	18058	1	
Animal Science	18101	1	

*Select **one course** from the list below for pathway approval.*

Title	Code	Credit	Special Considerations
Agricultural Food Science	18305	1	Choose one course from this section: 18305 or 19254.
Food Science	19254	1	Choose one course from this section: 18305 or 19254.

APPLICATION LEVEL

Title	Code	Credit	Special Considerations
Agricultural Internship	18048	1	
Advanced Agricultural Internship	18049	1	
Agribusiness Management	18201	1	
Agricultural Entrepreneurship	18202	1	
Agricultural Leadership & Communications	18203	1	
Research in Agriculture	18206	1	
Advanced Food Science	18317	1	Prerequisite course required; see competency profile. This course is required for pathway approval.

APPROVED PATHWAY:

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

Plant Science and Industry Operations Pathway

CIP CODE 01.1101

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Introduction to Agriculture	18001	1	Choose one course 18001 or 68001.
Agriculture Explorations I (Middle School)	68001	0.5	Choose one course 18001 or 68001.
Agriculture Explorations II (Middle School)	68002	0.5	Prerequisite course required; see competency profile. Can not be taught without 68001 in the pathway.

TECHNICAL LEVEL

Title	Code	Credit	Special Considerations
Agriscience	18002	1	

*Select **one course** from the list below for pathway approval.*

Title	Code	Credit	Special Considerations
Horticulture	18052	1	
Plant & Soil Science	18058	1	
Plant & Animal Science	18301	1	

APPLICATION LEVEL

Title	Code	Credit	Special Considerations
Agricultural Internship	18048	1	
Advanced Agricultural Internship	18049	1	
Agribusiness Management	18201	1	
Agricultural Entrepreneurship	18202	1	
Agricultural Leadership & Communications	18203	1	
Research in Agriculture	18206	1	

*Select **one course** from the list below for pathway approval.*

Title	Code	Credit	Special Considerations
Horticulture, Floriculture & Greenhouse Management	18057	1	
Nursery & Landscape Operations	18067	1	
Crop & Range Management	18081	1	
Advanced Plant & Animal Science	18302	1	Prerequisite course required; see competency profile.

APPROVED PATHWAY:

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

ENERGY AND NATURAL RESOURCES CAREER CLUSTER DESIGN

Energy Pathway

CIP CODE 14.4801

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Introduction to Energy	41100	0.5	Required course for pathway approval.
Introduction to Environmental Science	41207	0.5	

TECHNICAL LEVEL

Title	Code	Credit	Special Considerations
Meteorology	03006	1	
AP Environmental Science	03207	1	
Mechanical Power Transmission Systems	13302	0.5	
Foundations of Electronics	21201	1	Choose either 21201 or 41170, but not both.
Energy Industry Fundamentals	41105	1	Required course for pathway approval.
Energy, Power & Society	41150	1	
Wind Energy Operations	41160	1	
Fundamentals of Electricity & Electronics	41170	1	Choose either 21201 or 41170, but not both.
Principles of Applied Engineering	41320	1	

APPLICATION LEVEL

Title	Code	Credit	Special Considerations
HVAC Technology	17056	0.5	
Hydraulics & Pneumatics	39302	0.5	
Workplace Experience in Energy	41250	0.5	
Workplace Experience in Energy – Comprehensive	41260	1	
Advanced Electricity & Electronics	41270	0.5	Prerequisite course required; see competency profile.
Materials Science in Engineering	41355	0.5	

APPROVED PATHWAY:

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

Natural Resources and Environmental Sustainability Pathway

CIP CODE 03.0101

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Introduction to Agriculture	18001	1	Choose one course 18001 or 68001.
Agriculture Explorations I (Middle School)	68001	0.5	Choose one course 18001 or 68001.
Agriculture Explorations II (Middle School)	68002	0.5	Prerequisite course required; see competency profile. Can not be taught without 68001 in the pathway.

TECHNICAL LEVEL

Title	Code	Credit	Special Considerations
Agriscience	18002	1	

*Choose **one course** from below for pathway approval.*

Title	Code	Credit	Special Considerations
Wildlife & Recreation Management	18501	1	
Natural Resource Management	18504	1	

APPLICATION LEVEL

Title	Code	Credit	Special Considerations
Agricultural Internship	18048	1	
Advanced Agricultural Internship	18049	1	
Agribusiness Management	18201	1	
Agricultural Entrepreneurship	18202	1	
Agricultural Leadership & Communications	18203	1	
Research in Agriculture	18206	1	

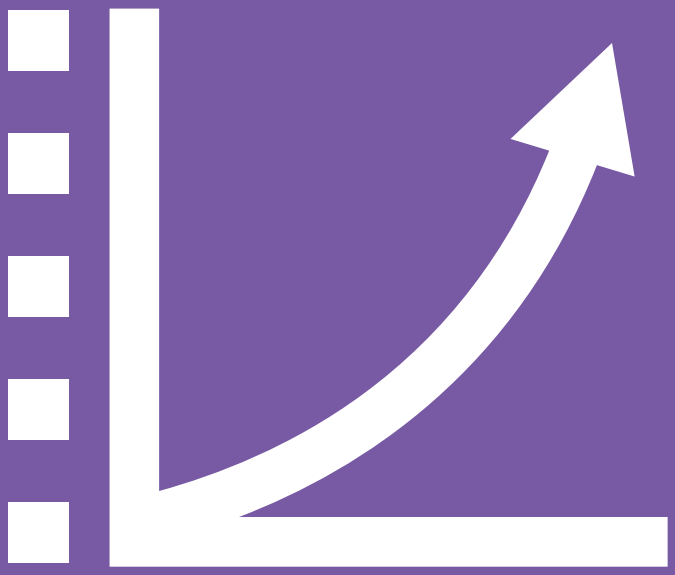
*Choose **one course** from below for pathway approval.*

Title	Code	Credit	Special Considerations
Sustainable/Alternative Agriculture	18310	1	
Environmental Resources & Ecology	37506	1	

APPROVED PATHWAY:

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

BUSINESS



MANAGEMENT AND ENTREPRENEURSHIP CAREER CLUSTER DESIGN

Business Management and Entrepreneurship Pathway

CIP CODE 52.0799

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Business Essentials	12050	0.5	Required course for pathway approval. Business Essentials (12050) can integrate with Computer Applications (10004).

TECHNICAL LEVEL

Title	Code	Credit	Special Considerations
Business Communications	12009	0.5	Required course for pathway approval
Business Management	12052	0.5	Required course for pathway approval
Entrepreneurship	12053	0.5	Required course for pathway approval

OPTIONAL TECHNICAL LEVEL

Supportive Business and Entrepreneurship

Title	Code	Credit	Special Considerations
Business Law	12054	0.5	
IB Business & Management	12059	1	
Accounting	12104	1	
Business Economics	12105	0.5	
Principles of Marketing	12164	1	

APPROVED PATHWAY:

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

Business Management and Entrepreneurship Pathway 52.0799

Supportive Entrepreneurship

*Students May take up to **ONE CREDIT** of **Supportive Entrepreneurship Technical Courses** to become a completer and/or concentrator.*

Title	Code	Credit	Special Considerations
Web Design	10201	1	
2D Animation	10202	1	
Computer-Aided Machining (CAM) I	13204	1	
Culinary Essentials	16052	0.5	
General Carpentry I	17002	1	
Remodel & Building Maintenance	17009	0.5	
Agriscience	18002	1	
Agricultural Welding I	18404	1	Choose 18404 or 39207, not both.
Welding Processes I	39207	1	Choose 18404 or 39207, not both.
Foundations of Early Childhood Development	19052	1	
Engineering Design & Development	21007	1	
Drafting/CAD	21107	1	
Digital Marketing & Advertising	35162	0.5	
General Service I	40150	1	
Auto Collision	40300	1	

APPLICATION LEVEL

Title	Code	Credit	Special Considerations
Business Management & Entrepreneurship Workplace Experience	12098	0.5/1	Schools can choose credit options of 0.5 or 1 credit.
Applied Business Development	32200	1	Required course for pathway approval.
Advanced Business Management & Entrepreneurship Workplace Experience	32998	1	

FINANCIAL SERVICES CAREER CLUSTER DESIGN

Business Finance Pathway

CIP CODE 52.0801

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Business Essentials	12050	0.5	Required course for pathway approval. Business Essentials (12050) can integrate with Computer Applications (10004).

TECHNICAL LEVEL

Title	Code	Credit	Special Considerations
Accounting	12104	1	Required course for pathway approval.

Optional Supportive Courses

Title	Code	Credit	Special Considerations
Business Communications	12009	0.5	
Entrepreneurship	12053	0.5	
Business Law	12054	0.5	
Business Economics	12105	0.5	
Applied Business Technology Applications	33110	1	Before enrolling, students must complete a computer skills course like Computer Applications (60004/10004).

APPLICATION LEVEL

At least **ONE** ***credit*** *from at least* ***one strand*** *is* ***required. Either Financial Institutions and Services Strand or Accounting Strand.***

Financial Institutions and Services Strand

Title	Code	Credit	Special Considerations
Banking & Finance	12101	0.5	
Risk Management & Insurance	12106	0.5	
Investing	12107	0.5	

Accounting Strand

Title	Code	Credit	Special Considerations
Advanced Accounting	33108	1	
College Accounting	33109	1	

Optional Supportive Courses

Title	Code	Credit	Special Considerations
Workplace Experience in Finance	12148	0.5/1	Schools can choose credit options of 0.5 or 1 credit.
Workplace Experience in Finance - Advanced	33200	1	

APPROVED PATHWAY:

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

MARKETING AND SALES CAREER CLUSTER DESIGN

Marketing Pathway

CIP CODE 52.1402

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Business Essentials	12050	0.5	Required course for pathway approval. Business Essentials (12050) can integrate with Computer Applications (10004).

TECHNICAL LEVEL

Title	Code	Credit	Special Considerations
Business Communications	12009	0.5	Course not required for approval but strongly recommended by review committee and KACCTE.
Sports/Entertainment Marketing	12163	0.5	
Principles of Marketing	12164	1	Required course for pathway approval.
Digital Marketing & Advertising	35162	0.5	

Optional Supportive Courses

Title	Code	Credit	Special Considerations
Web Design	10201	1	
2D Animation	10202	1	
Business Management	12052	0.5	
Entrepreneurship	12053	0.5	
IB Business & Management	12059	1	
Accounting	12104	1	
Business Economics	12105	0.5	
Foundations of Travel & Tourism	16151	0.5	
Graphic Design I	30102	0.5	
Audio/Visual Production I	30103	0.5	
Applied Business Technology Applications	33110	1	Before enrolling, students must complete a computer skills course like Computer Applications (60004/10004).
Event Planning & Management	34052	0.5	

APPLICATION LEVEL

Title	Code	Credit	Special Considerations
Marketing Applications	35300	1	Required course for pathway approval.

APPROVED PATHWAY:

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

Marketing Pathway 52.1402

Optional Supportive Courses

Title	Code	Credit	Special Considerations
Marketing Management	12166	1	
Marketing - Workplace Experience	12198	0.5/1	Schools can choose credit options of 0.5 or 1 credit.
Advanced Marketing Workplace Experience	12199	1	
Marketing Communications	35168	0.5	
Marketing Research	12196	1	

HOSPITALITY, EVENTS AND TOURISM CAREER CLUSTER DESIGN

Restaurant and Event Management Pathway

CIP CODE 12.0504

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Business Essentials	12050	0.5	
Introduction to Family & Consumer Sciences	19251	0.5	
Career & Life Planning	19258	0.5	

TECHNICAL LEVEL

Select a strand at division.

Title	Code	Credit	Special Considerations
Culinary Essentials	16052	0.5	Required course for pathway approval.
Nutrition & Dietetics	19253	0.5	

Event Planning and Management Strand

Title	Code	Credit	Special Considerations
Foundations of Travel & Tourism	16151	0.5	
Event Planning & Management	34052	0.5	Required course for this strand.

Culinary Arts and Management Strand

Title	Code	Credit	Special Considerations
Culinary Arts I	16053	1	Required course for this strand.
Culinary Arts II	16055	0.5	Prerequisite course required; see competency profile.
Baking & Pastry I	16056	0.5	
Baking & Pastry II	16057	0.5	Prerequisite course required; see competency profile.
Food Science	19254	1	
Event Planning & Management	34052	0.5	

Additional Courses

*These courses may be offered after **THREE** credits in the technical level have been selected.*

Title	Code	Credit	Special Considerations
Entrepreneurship	12053	0.5	
Principles of Marketing	12164	1	

APPROVED PATHWAY:

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

Restaurant and Event Management Pathway 12.0504

APPLICATION LEVEL

Event Planning and Management Strand

Title	Code	Credit	Special Considerations
Community Connections	19297	0.5	
Applied Business Development	32200	1	
Career Connections	19298	0.5	

Culinary Arts and Management Strand

Title	Code	Credit	Special Considerations
Culinary Workplace Experience	16098	1	
Career Connections	19298	0.5	
Community Connections	19297	0.5	

Travel and Tourism Pathway

CIP CODE 52.0901

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Business Essentials	12050	0.5	
Introduction to Family & Consumer Sciences	19251	0.5	
Career & Life Planning	19258	0.5	

TECHNICAL LEVEL

Title	Code	Credit	Special Considerations
Entrepreneurship	12053	0.5	
Principles of Marketing	12164	1	
Culinary Essentials	16052	0.5	
Foundations of Hospitality & Lodging	16101	0.5	
Foundations of Travel & Tourism	16151	0.5	
Nutrition & Dietetics	19253	0.5	
Event Planning & Management	34052	0.5	Required course for pathway approval.

APPLICATION LEVEL

Title	Code	Credit	Special Considerations
Hospitality & Lodging Management	16148	1	
Community Connections	19297	0.5	
Career Connections	19298	0.5	

APPROVED PATHWAY:

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

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DESIGN, PRODUCTION AND REPAIR



ADVANCED MANUFACTURING CAREER CLUSTER DESIGN

Automation Engineering Pathway

CIP CODE 15.0406

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Introduction to Manufacturing	13001	0.5	
Production Print Reading I	21108	0.5	
Introduction to Computer Coding	31001	0.5	
Introduction to Physical Computing	31002	0.5	
Introduction to Skilled Trades	38001	0.5	
Introduction to Engineering	41310	1	

TECHNICAL LEVEL

Title	Code	Credit	Special Considerations
Computer Programming	10152	1	
Mechanical Power Transmission Systems	13302	0.5	
Fundamentals of Electrical Theory	17101	1	
Engineering Design	21006	1	
Robotics I	21009	1	
Foundations of Electronics	21201	1	
Welding Processes I	39207	1	
Hand & Power Tools	40400	0.5	

APPLICATION LEVEL

Title	Code	Credit	Special Considerations
Cybersecurity I	10020	1	
Industrial Maintenance Systems	13303	0.5	Prerequisite course required; see competency profile.
Digital Electronics	21008	1	
Computer Integrated Manufacturing	21010	1	
Workplace Experience in Engineering – Comprehensive	21048	1	
Robotics II	39009	0.5	Prerequisite course required; see competency profile.
Automated Integrated Systems I	39010	0.5	
Automated Integrated Systems II	39020	0.5	Prerequisite course required; see competency profile.
Hydraulics & Pneumatics	39302	0.5	
Workplace Experience in Engineering	41048	0.5	
Materials Science in Engineering	41355	0.5	

APPROVED PATHWAY:

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

Aviation Production Pathway

CIP CODE 15.0000

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Production Print Reading I	21108	0.5	
Introduction to Skilled Trades	38001	0.5	

TECHNICAL LEVEL

Title	Code	Credit	Special Considerations
Hand & Power Tools	40400	0.5	Required course for pathway approval.
Aviation Fundamentals	40410	0.5	Required course for pathway approval.
Aircraft Systems	40420	1	

Design Strand

Title	Code	Credit	Special Considerations
Drafting/CAD	21107	1	

Production Strand

Title	Code	Credit	Special Considerations
Production Methods I	13052	1	

APPLICATION LEVEL

Title	Code	Credit	Special Considerations
Workplace Experience in Engineering – Comprehensive	21048	1	
Workplace Experience in Engineering	41048	0.5	

Design Strand

Title	Code	Credit	Special Considerations
Aerospace Drawings I	41500	0.5	Prerequisite course required; see competency profile.
Aerospace Drawings II	41510	0.5	Prerequisite course required; see competency profile.
Special Projects & Research in Aviation	41520	1	Prerequisite course required; see competency profile.

Production Strand

Title	Code	Credit	Special Considerations
Aviation Tooling	40600	1	
Aerostructures	40620	1	
Composites	40640	1	

APPROVED PATHWAY:

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

Engineering and Applied Mathematics Pathway

CIP CODE 14.0101

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Production Print Reading I	21108	0.5	
Introduction to Engineering	41310	1	Required course for pathway approval.

TECHNICAL LEVEL

Title	Code	Credit	Special Considerations
Engineering Design	21006	1	Offer either 21006 or 21107, but not both.
Robotics I	21009	1	
Drafting/CAD	21107	1	Offer either 21006 or 21107, but not both.
Foundations of Electronics	21201	1	
Principles of Applied Engineering	41320	1	

APPLICATION LEVEL

Title	Code	Credit	Special Considerations
Engineering Design & Development	21007	1	
Digital Electronics	21008	1	
Computer Integrated Manufacturing	21010	1	
Civil Engineering & Architecture	21012	1	
Aerospace Engineering	21013	1	
Particular Topics in Engineering	21015	1	
Workplace Experience in Engineering – Comprehensive	21048	1	
Emerging Technologies	21053	1	
Workplace Experience in Engineering	41048	0.5	
Project Management	41350	0.5	
Materials Science in Engineering	41355	0.5	

APPROVED PATHWAY:

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

Manufacturing Pathway

CIP CODE 48.0000

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Introduction to Welding	13207	0.5	Production strand only.
Production Print Reading I	21108	0.5	
Introduction to Skilled Trades	38001	0.5	

TECHNICAL LEVEL

Title	Code	Credit	Special Considerations
Agricultural Welding I	18404	1	Choose 18404 or 39207, not both.
Robotics I	21009	1	
Welding Processes I	39207	1	Choose 18404 or 39207, not both.
Hand & Power Tools	40400	0.5	

Production Strand

Title	Code	Credit	Special Considerations
Production Methods I	13052	1	
Machine Tool Technology	13203	1	
Computer-Aided Machining (CAM) I	13204	1	
Drafting/CAD	21107	1	
Production Print Reading II	39108	0.5	Prerequisite course required; see competency profile.

Maintenance Strand

Title	Code	Credit	Special Considerations
Mechanical Power Transmission Systems	13302	0.5	
Foundations of Electronics	21201	1	

APPLICATION LEVEL

Title	Code	Credit	Special Considerations
Work Experience in Manufacturing	13348	0.5	
Work Experience in Manufacturing – Comprehensive	13998	1	
Agricultural Welding II	18407	1	Choose 18407 or 39208, not both. Prerequisite course required; see competency profile.
Welding Processes II	39208	1	Choose 18407 or 39208, not both. Prerequisite course required; see competency profile.

APPROVED PATHWAY:

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

Manufacturing Pathway 48.0000

Production Strand

Title	Code	Credit	Special Considerations
Advanced Drafting/CAD	21150	1	Prerequisite course required; see competency profile.
Advanced Materials & Fabrication	38010	1	Prerequisite course required; see competency profile.
Automated Integrated Systems	39010	0.5	Prerequisite course required; see competency profile.
Production Methods II	39052	1	Prerequisite course required; see competency profile.
Computer-Aided Machining (CAM) II	39205	0.5	Prerequisite course required; see competency profile.

Maintenance Strand

Title	Code	Credit	Special Considerations
Sheet Metal Technology	13205	0.5	
Remodeling & Building Maintenance	17009	0.5	
HVAC Technology	17056	0.5	
Plumbing Technology	17058	0.5	
Electrical Technology	17113	0.5	
Digital Electronics	21008	1	
Hydraulics & Pneumatics	39302	0.5	Prerequisite course required; see competency profile.

APPROVED PATHWAY:

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

CONSTRUCTION CAREER CLUSTER DESIGN

Construction and Design Pathway

CIP CODE 46.0000

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Drafting/Print Reading	21102	0.5	
Production Print Reading I	21108	0.5	
Introduction to Skilled Trades	38001	0.5	Required course for construction strand.

TECHNICAL LEVEL

Design Strand

Title	Code	Credit	Special Considerations
Interior Design I	19263	0.5	Requires FCS License.
Drafting/Architecture I	21103	1	
Drafting/CAD	21107	1	
Architectural Design I	21203	0.5	
Interior Design II	22212	0.5	Requires FCS License. Prerequisite course required; see competency profile.

Construction Strand

Title	Code	Credit	Special Considerations
General Carpentry I	17002	1	
Woodworking Principles	17007	1	
Mechanical/Electrical/Plumbing (MEP) I	17062	0.5	

APPROVED PATHWAY:

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

Construction and Design Pathway 46.0000

APPLICATION LEVEL

Title	Code	Credit	Special Considerations
Workplace Experience in Architecture & Construction	38100	0.5	
Workplace Experience in Architecture & Construction - Comprehensive	38110	1	

Design Strand

Title	Code	Credit	Special Considerations
Research & Design for Preconstruction	21109	1	
Drafting/Architecture II	38050	0.5	Prerequisite course required; see competency profile.
Interior Architectural Design	38212	0.5	
Architectural Design II	38223	0.5	Prerequisite course required; see competency profile.

Construction Strand

Title	Code	Credit	Special Considerations
Sheet Metal Technology	13205	1	Prerequisite course required; see competency profile.
Research & Design in Building Trades	17005	1	Prerequisite course required; see competency profile.
Remodel & Building Maintenance	17009	0.5	Prerequisite course required; see competency profile.
HVAC Technology	17056	0.5	Prerequisite course required; see competency profile.
Plumbing Technology	17058	0.5	Prerequisite course required; see competency profile.
Electrical Technology	17113	0.5	Prerequisite course required; see competency profile.
General Carpentry II	38002	1	Prerequisite course required; see competency profile.
Advanced Materials & Fabrication	38010	1	Prerequisite course required; see competency profile.

SUPPLY CHAIN AND TRANSPORTATION CAREER CLUSTER DESIGN

Aviation Maintenance and Operations Pathway

CIP CODE 47.0607

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Production Print Reading I	21108	0.5	
Introduction to Skilled Trades	38001	0.5	

TECHNICAL LEVEL

Title	Code	Credit	Special Considerations
Foundations of Electronics	21201	1	
Hand & Power Tools	40400	0.5	
Aviation Fundamentals	40410	0.5	
Aircraft Systems	40420	1	
AMT General I	40431	0.5	

APPLICATION LEVEL

Title	Code	Credit	Special Considerations
Small Uncrewed Aircraft Systems (sUAS) I	40490	1	Prerequisite course required; see competency profile.
Work Experience in Aviation	40700	0.5	
Aviation Work Experience - Comprehensive	40701	1	
Digital Electronics	21008	1	
AC Electronics	40450	1	
DC Electronics	40460	1	
AMT General II	40432	0.5	Prerequisite course required; see competency profile.
AMT General III	40433	0.5	Prerequisite course required; see competency profile.
AMT General IV	40434	0.5	Prerequisite course required; see competency profile.
Private Pilot Ground School	40540	1	Prerequisite course required; see competency profile.

APPROVED PATHWAY:

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

Vehicle Maintenance and Repair Pathway

CIP CODE 47.0600

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Business Essentials	12050	0.5	
Introduction to Skilled Trades	38001	0.5	Must choose either 38001 or 40050 for pathway approval.
Basic Automotive Care & Information	40050	0.5	Must choose either 38001 or 40050 for pathway approval.

TECHNICAL LEVEL

Title	Code	Credit	Special Considerations
General Service I	40150	1	
Electronics & Electrical Systems I	40200	1	
Brakes I	40204	0.5	
Drive Train Technology I	40208	0.5	
Diesel & Heavy Equipment Technology I	40218	1	
Engine Performance I	40220	0.5	
Steering & Suspension I	40224	0.5	
Mobile HVAC	40228	0.5	
Auto Collision I	40300	1	
Auto Refinishing I	40310	1	

Optional Support Courses are available after having enough credits for pathway approval.

Optional Supportive Courses

Title	Code	Credit	Special Considerations
Entrepreneurship	12053	0.5	
Alternative Power	40210	0.5	
Small Engine & Powertrains I	40212	0.5	
Engine Mechanical Repair	40216	0.5	

APPROVED PATHWAY:

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

Vehicle Maintenance and Repair Pathway 47.0600

APPLICATION LEVEL

Title	Code	Credit	Special Considerations
General Service II	40152	1	Prerequisite course required; see competency profile.
General Service III	40154	1	Prerequisite course required; see competency profile.
Electronics & Electrical Systems II	40202	1	Prerequisite course required; see competency profile.
Brakes II	40206	0.5	Prerequisite course required; see competency profile.
Engine Performance II	40222	1	Prerequisite course required; see competency profile.
Steering & Suspension II	40226	0.5	Prerequisite course required; see competency profile.
Diesel & Heavy Equipment Technology II	40238	1	Prerequisite course required; see competency profile.
Diesel & Heavy Equipment Technology III	40239	1	Prerequisite course required; see competency profile.
CDL - Entry Level Driver Training	40240	0.5	Prerequisite course required; see competency profile.
Work Experience in Transportation	40250	0.5	
Work Experience in Transportation – Comprehensive	40251	1	
Auto Collision II	40302	1	Prerequisite course required; see competency profile.
Auto Refinishing II	40312	1	Prerequisite course required; see competency profile.

Optional Support Courses are available after having enough credits for pathway approval.

Optional Supportive Course

Title	Code	Credit	Special Considerations
Small Engines & Powertrains II	40214	0.5	Prerequisite course required; see competency profile.

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HEALTH AND HUMAN SERVICES



HEALTHCARE AND HUMAN SERVICES CAREER CLUSTER DESIGN

Biotechnology Pathway

CIP CODE 26.1201

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Chemistry	03101	1	
Computing Systems (Grade 8/9)	60002/10002	1	
Computer Applications (Grade 8/9)	60004/10004	0.5	

TECHNICAL LEVEL

Title	Code	Credit	Special Considerations
Anatomy & Physiology	03053	1	03053 or 21014 required for pathway approval.
Human Body Systems	14102	1	
Pharmacology	14253	1	
Biotechnology Essentials	21014	1	03053 or 21014 required for pathway approval.

At least ONE course from at least one strand is required at both the technical and application level for pathway approval.

Biochemistry Strand

Title	Code	Credit	Special Considerations
Applied Biochemistry	03203	1	
Plant & Soil Science	18058	1	
Food Science	19254	1	

Biomedical Strand

Title	Code	Credit	Special Considerations
Medical Interventions	14105	1	
Principles of Biomedical Science	14251	1	
Robotics I	21009	1	

APPROVED PATHWAY:

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

Biotechnology Pathway 26.1201

APPLICATION LEVEL

Title	Code	Credit	Special Considerations
Bioscience Workplace Experience	14998	1	
Applied Biotechnology	18320	1	

At least ONE course from at least one strand is required at both the technical and application level for pathway approval.

Biochemistry Strand

Title	Code	Credit	Special Considerations
Particular Topics in Engineering	21015	1	

Biomedical Strand

Title	Code	Credit	Special Considerations
Biomedical Innovation	14255	1	
Emerging Technologies	21053	1	

Health Science Pathway

CIP CODE 51.3901

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Chemistry	03101	1	
Introduction to Health Care	14000	0.5	

TECHNICAL LEVEL

Title	Code	Credit	Special Considerations
Anatomy & Physiology	03053	1	Required course for pathway approval.
Fundamentals of Emergency Services	14055	0.5	
Human Body Systems	14102	1	
Medical Interventions	14105	1	
Medical Terminology	14154	0.5	
Health Care Essentials I	14254	0.5	
Nutrition & Dietetics	19253	0.5	
Health Care Essentials II	36254	1	
EMS First Responder	44050	0.5	Course may need specific teacher certification and/or offer professional certification.

At least **ONE** ***course*** *from at least* ***one strand*** *is* ***required at both the technical and application level*** *for pathway approval.*

Sports Med/Rehabilitation Strand

Title	Code	Credit	Special Considerations
Foundations of Rehab	14060	0.5	Course may need specific teacher certification and/or offer professional certification.
Care of Athletes	14062	0.5	Course may need specific teacher certification and/or offer professional certification.
Sports Medicine I	14072	1	Course may need specific teacher certification and/or offer professional certification.

Allied Health Strand

Title	Code	Credit	Special Considerations
Medical Imaging	14103	0.5	
Principles of Phlebotomy	14104	0.5	Course may need specific teacher certification and/or offer professional certification.
Pharmacology	14253	1	Course may need specific teacher certification and/or offer professional certification.

APPROVED PATHWAY:

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

Health Science Pathway 51.3901

APPLICATION LEVEL

Title	Code	Credit	Special Considerations
Certified Patient Care Technician	14202	0.5	Course may need specific teacher certification and/or offer professional certification.
Certified Nursing Assistant	14997	0.5	Course may need specific teacher certification and/or offer professional certification.
Certified Medication Aide	36156	0.5	Course may need specific teacher certification and/or offer professional certification.
Health Care Work Experience I	36992	1	
Health Care Work Experience II	36993	2	Prerequisite course required; see competency profile.

At least **ONE** ***course*** *from at least* ***one strand*** *is* ***required at both the technical and application level*** *for pathway approval.*

Sports Med/Rehabilitation Strand

Title	Code	Credit	Special Considerations
Sports Medicine II	14073	1	Prerequisite course required; see competency profile. Course may need specific teacher certification and/or offer professional certification.

Allied Health Strand

Title	Code	Credit	Special Considerations
Home Health Aide	36053	0.5	Course may need specific teacher certification and/or offer professional certification.
Principles of Pharmacy	36157	1	Course may need specific teacher certification and/or offer professional certification.
EKG Technician	36991	0.5	Course may need specific teacher certification and/or offer professional certification.
EMT I	44060	1	Course may need specific teacher certification and/or offer professional certification.
EMT II	44065	1	Prerequisite course required; see competency profile. Course may need specific teacher certification and/or offer professional certification.

Family, Community and Consumer Services Pathway

CIP CODE 44.000

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Introduction to Family and Consumer Sciences	19251	0.5	
Career and Life Planning	19258	0.5	

TECHNICAL LEVEL

Title	Code	Credit	Special Considerations
Family Studies	19255	0.5	Required course for pathway approval.

Comprehensive Family and Consumer Sciences

Title	Code	Credit	Special Considerations
Human Growth and Development – Early Years	45004	0.5	45004 or 45014 required for strand approval.
Lifespan Development	45014	0.5	45004 or 45014 required for strand approval.
Leadership Service in Action	19257	0.5	
Dimensions of Wellness	19250	0.5	

Nutritional Services Strand

Title	Code	Credit	Special Considerations
Nutrition and Dietetics	19253	0.5	
Culinary Essentials	16052	0.5	

Mental and Behavioral Health Strand

Title	Code	Credit	Special Considerations
Foundations of Mental and Behavior Health	19260	0.5	Required course for strand approval.
Dimensions of Wellness	19250	0.5	19250 or 45014 required for strand approval.
Lifespan Development	45014	0.5	19250 or 45014 required for strand approval.

APPLICATION LEVEL

Title	Code	Credit	
Workplace Experience in Human Services	19296	0.5	Requires one credit in human services courses.
Workplace Experience in Human Services - Comprehensive	19299	1	Requires one credit in human services courses.

APPROVED PATHWAY:

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

MEDIA AND TECHNOLOGY



DIGITAL TECHNOLOGY CAREER CLUSTER DESIGN

Information Support and Services Pathway

CIP CODE 11.0301

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Computing Systems (Grade 8/9)	60002/10002	1	
Computer Applications (Grade 8/9)	60004/10004	0.5	

TECHNICAL LEVEL

Title	Code	Credit	Special Considerations
Foundations of Information Technology	10001	1	Required course for pathway approval.

APPLICATION LEVEL

Title	Code	Credit	Special Considerations
Cybersecurity I	10020	1	
Information Support & Services I	10052	1	Prerequisite course required; see competency profile.
Information Support & Services II	10097	1	Prerequisite course required; see competency profile.
Work-based Learning in Information Support & Services	10098	1	
Cybersecurity II	10900	1	Prerequisite course required; see competency profile.

APPROVED PATHWAY:

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

Media Design and Communications Pathway

CIP CODE 11.0801

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Introduction to Web & Digital Media	05254	0.5	
Computer Applications (Grade 8/9)	60004/10004	0.5	
Drawing for Designers	30006	0.5	

TECHNICAL LEVEL

Title	Code	Credit	Special Considerations
Graphic Design II	05162	1	
Computer Programming	10152	1	
Web Design	10201	1	
Interactive Media	10203	1	
Principles of Illustration	30101	0.5	
Graphic Design I	30102	0.5	

Optional Support Courses: Content Creation

Title	Code	Credit	Special Considerations
2D Animation	10202	1	
3D Animation	10210	1	
Journalism & Media Communications	30100	0.5	
Audio/Video Production I	30103	0.5	
Digital Media Technology	30104	0.5	
Photo Imaging	30105	0.5	
Media & Public Relations	43115	0.5	

APPROVED PATHWAY:

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

Media Design and Communications Pathway 11.0801

APPLICATION LEVEL

Graphic Design Strand

Title	Code	Credit	Special Considerations
Graphic Design Workplace Experience	10248	1	
Applied Graphic Design	31090	1	

Web And Digital Design Strand

Title	Code	Credit	Special Considerations
Applied Game Design	10165	1	
Web & Design Workplace Experience	31096	1	

Optional Support Courses: Content Creation

Title	Code	Credit	Special Considerations
Audio/Video Production II	30150	1	Prerequisite course required; see competency profile.
Media Design & Production	30151	1	
Advanced Media Design & Production	31091	1	

Networking and Telecommunications Pathway

CIP CODE 11.0901

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Computing Systems (Grade 8/9)	60002/10002	1	
Computer Applications (Grade 8/9)	60004/10004	0.5	
IoT Internet of Things	60006/10006	0.5	

TECHNICAL LEVEL

Title	Code	Credit	Special Considerations
Foundations of Information Technology	10001	1	Required course for pathway approval.
Telecommunications	10106	1	
Digital Electronics	21008	1	
GIS Technology	21058	1	
Fundamentals of Electricity & Electronics	41170	1	

APPLICATION LEVEL

Title	Code	Credit	Special Considerations
Network Systems I	10112	1	
Network Systems II	10147	1	Prerequisite course required; see competency profile.
Telecom Workplace Experience	11048	1	
Applied Telecommunications	11049	1	
GIS Spatial Applications	21112	1	

APPROVED PATHWAY:

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

Programming and Software Development Pathway

CIP CODE 11.0201

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Computing Systems (Grade 8/9)	60002/10002	1	
Computer Applications (Grade 8/9)	60004/10004	0.5	
Introduction to Computer Coding	31001	0.5	
Introduction to Physical Computing	31002	0.5	

TECHNICAL LEVEL

Title	Code	Credit	Special Considerations
Database Applications	10053	1	
Data System/Processing	10054	1	
Computer Programming	10152	1	
Computer Programming – Other Languages	10156	1	
Web Design	10201	1	
AP Computer Science Principles	31094	1	
Technical Introduction to Computer Science	41010	1	

APPLICATION LEVEL

Title	Code	Credit	Special Considerations
Cybersecurity I	10020	1	
AP Computer Science A	10157	1	
IB Computing	10159	1	
Particular Topics in Computer Programming	10160	1	
Work-based Learning in Programming & Software Development	10198	1	
Cybersecurity II	10900	1	Prerequisite course required; see competency profile.

APPROVED PATHWAY:

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

PUBLIC SERVICES



EDUCATION CAREER CLUSTER DESIGN

Early Childhood Development and Services Pathway

CIP CODE 19.0709

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Introduction to Education	19199	0.5	
Introduction to Family & Consumer Sciences	19251	0.5	
Career & Life Planning	19258	0.5	

TECHNICAL LEVEL

Title	Code	Credit	Special Considerations
Leadership Service in Action	19257	0.5	
Teaching Observation	42251	0.5	

Must teach **all courses in the strand** of your choice.

Early Childhood Education Strand

Title	Code	Credit	Special Considerations
Orientation to Early Childhood Development	19051	1	
Foundations of Early Childhood Development	19052	1	

Early Childhood Related Services Strand

Title	Code	Credit	Special Considerations
Foundations of Early Childhood Development	19052	1	
Family Studies	19255	0.5	
Human Growth & Development – Early Years	45004	0.5	

Optional Support

Title	Code	Credit	Special Considerations
Entrepreneurship	12053	0.5	

APPLICATION LEVEL

Title	Code	Credit	Special Considerations
Early Childhood Applications	19098	1	Has a prerequisite of one credit in Early Childhood Development and Services Pathway (1 credit Technical or Application -Level course)
Workplace Experience in Early Childhood Development	19301	0.5	Has a prerequisite of one credit in Early Childhood Development and Services Pathway (1 credit Technical or Application -Level course)
Workplace Experience in Early Childhood Development - Comprehensive	19302	1	Has a prerequisite of one credit in Early Childhood Development and Services Pathway (1 credit Technical or Application -Level course)

APPROVED PATHWAY:

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

Teaching/Training

CIP CODE 13.0101

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Introduction to Education	19199	0.5	
Introduction to Family & Consumer Sciences	19251	0.5	
Career & Life Planning	19258	0.5	

TECHNICAL LEVEL

Title	Code	Credit	Special Considerations
Teaching as a Career	19151	1	Required course for pathway approval.
Coaching & Leadership	19154	0.5	
Technology for Teachers	19155	0.5	
Family Studies	19255	0.5	Alternate course Orientation to Early Childhood Development (19051)
Teaching Observation	42251	0.5	
Human Growth & Development – Early Years	45004	0.5	Alternate course Orientation to Early Childhood Development (19051). Must choose ONE of these courses at the technical level for pathway approval
Lifespan Development	45014	0.5	Alternate course Orientation to Early Childhood Development (19051). Must choose ONE of these courses at the technical level for pathway approval

APPLICATION LEVEL

Title	Code	Credit	Special Considerations
Teaching Internship	19152	1	
Educational Leadership	19198	0.5	

APPROVED PATHWAY:

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

PUBLIC SERVICE AND SAFETY CAREER CLUSTER DESIGN

Government and Public Administration Pathway

CIP CODE 44.0401

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Career & Life Planning	19258	0.5	
Introduction to Government & Public Administration	43001	0.5	Required course for pathway approval.

TECHNICAL LEVEL

Title	Code	Credit	Special Considerations
Government & Public Administration Fundamentals	43105	0.5	Required course for pathway approval.
IT for Service Professions	44010	0.5	
Lifespan Development	45014	0.5	

Public Administration Strand

Title	Code	Credit	Special Considerations
Business Management	12052	0.5	
Business Law	12054	0.5	Required course for pathway approval per strand.
Accounting	12104	1	
Business Economics	12105	0.5	

Pre-Law Legal Assistance Strand

Title	Code	Credit	Special Considerations
Government & Public Media Relations	04990	0.5	
Business Law	12054	0.5	Required course for pathway approval per strand.
Business Economics	12105	0.5	
Practical Law	44300	0.5	Required course for pathway approval per strand.

APPLICATION LEVEL

Title	Code	Credit	Special Considerations
Career Connections	19298	0.5	
Governance Applications	43250	1	
Foundations in Law	44305	1	
Legal Proceedings	44310	1	

APPROVED PATHWAY:

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

Corrections, Security, Law and Law Enforcement Services Pathway

CIP CODE 43.0199

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Introduction to Law, Public Safety, Corrections & Security (LPSCS)	44001	0.5	Required course for pathway approval.

TECHNICAL LEVEL

Pre-Law Strand

Title	Code	Credit	Special Considerations
Business Communications	12009	0.5	
Business Management	12052	0.5	
Business Law	12054	0.5	Required course for pathway approval.
Accounting	12104	1	
Business Economics	12105	0.5	
Practical Law	44300	0.5	Required course for pathway approval.

Law Enforcement Strand

Title	Code	Credit	Special Considerations
EMS First Responder	44050	0.5	Course may need specific teacher certification and/or offer professional certification.
Hazardous Materials for the First Responder	44070	0.5	
Law Enforcement I	44200	1	
Forensic Science I	44225	1	

APPLICATION LEVEL

Pre-Law Strand

Title	Code	Credit	Special Considerations
Foundations in Law	44305	1	
Legal Proceedings	44310	1	
Work Experience in LPSCS	44298	0.5	Prerequisite course required; see competency profile.

Law Enforcement Strand

Title	Code	Credit	Special Considerations
Law Enforcement II	44201	1	Prerequisite course required; see competency profile.
Certified Protection Officer	44210	0.5	
Corrections Officer	44215	0.5	
Forensic Science II	44226	1	Prerequisite course required; see competency profile.
Work Experience in LPSCS	44298	0.5	Prerequisite course required; see competency profile.

APPROVED PATHWAY:

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

Emergency and Fire Management Services Pathway

CIP CODE 43.0299

INTRODUCTORY LEVEL

Title	Code	Credit	Special Considerations
Introduction to Law, Public Safety, Corrections & Security (LPSCS)	44001	0.5	Required course for pathway approval.
Introduction to Emergency Medical Services (EMS)	44005	0.5	

Technical Level

Title	Code	Credit	Special Considerations
Medical Terminology	14154	0.5	
EMS First Responder	44050	0.5	Course may need specific teacher certification and/or offer professional certification.
Hazardous Materials for the First Responder	44070	0.5	
Fire Service Special Operations	44080	0.5	

Application Level

Title	Code	Credit	Special Considerations
EMT I	44060	1	Course may need specific teacher certification and/or offer professional certification.
EMT II	44065	1	Course may need specific teacher certification and/or offer professional certification. Prerequisite course required; see competency profile
Fire Science I	44100	1	Course may need specific teacher certification and/or offer professional certification.
Fire Science II	44101	1	Course may need specific teacher certification and/or offer professional certification. Prerequisite course required; see competency profile
Work Experience in LPSCS	44298	0.5	Prerequisite course required; see competency profile

APPROVED PATHWAY:

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

Kansas CTE Terminology

As we design and implement the Career Clusters/Pathways Program of Study into the Kansas educational system, it is imperative to have some common terms and definitions that are used consistently throughout the state. To that end, we provide the following terms and definitions as a resource.

APPLICATION-LEVEL COURSE: This is an advanced level course that builds on the technical level course and includes opportunities for the learner to demonstrate knowledge attained through practical application of skills. It should include work-based learning experiences such as an internship, health science clinical, supervised agricultural experience (SAE), work simulation or school-based endeavor (store, etc.).

ARTICULATION: This is a systematic, seamless student transition process from secondary to postsecondary education that maximizes use of resources and minimizes duplication.

ARTICULATION AGREEMENT: A written commitment agreed upon at the state level or approved annually by the lead administrators of a secondary institution and a postsecondary institution, or a sub-baccalaureate degree granting postsecondary institution and a baccalaureate degree granting institution; a program designed to provide students with a nonduplicative sequence of progressive achievement leading to technical skill proficiency, a credential, a certificate or a degree and is linked through credit transfer agreements between the two institutions {[20 U.S. Code § 2302 Section 3, Definition 4] Perkins Act of 2006: The Official Guide}. For Kansas use: the articulation agreement does not have to include a credit transfer agreement (advanced placement credit). It must include a seamless progression from one level to the next and may include such incentives as scholarships.

CAREER AND TECHNICAL EDUCATION (CTE): The term "career and technical education" means organized educational activities that:

(A) offer a sequence of courses that -

  (i) provides individuals with rigorous academic content and relevant technical knowledge and skills needed to prepare for further education and careers in current or emerging professions, which may include high-skill, high-wage, or in-demand industry sectors or occupations, which shall be, at the secondary level, aligned with the challenging State academic standards adopted by a State under section 6311 (b)(1) of this title;

  (ii) provides technical skill proficiency or a recognized postsecondary credential, which may include an industry-recognized credential, a certificate, or an associate degree; and

  (iii) may include prerequisite courses (other than a remedial course) that meet the requirements of this subparagraph;

(B) include competency-based, work-based, or other applied learning that supports the development of academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of an industry, including entrepreneurship, of an individual;

(C) to the extent practicable, coordinate between secondary and postsecondary education programs through programs of study, which may include coordination through articulation agreements, early college high school programs, dual or concurrent enrollment program opportunities, or other credit transfer agreements that provide postsecondary credit or advanced standing; and

(D) may include career exploration at the high school level or as early as the middle grades (as such term is defined in section 7801 of this title). 20 USC Ch. 44: CAREER AND TECHNICAL EDUCATION[1]

1 *20 USC Ch. 44: CAREER AND TECHNICAL EDUCATION*. (n.d.). *https://uscode.house.gov/view.xhtml*?path=/prelim@title20/chapter44&edition=prelim

KANSAS CTE TERMINOLOGY

CAREER AND TECHNICAL EDUCATION (CTE) COURSE: A CTE course (for an approved cluster/pathway) is one in a progression leading from introductory to technical to application levels that support state and national standards and competencies. The foundation for CTE courses is the inclusion of knowledge and skills that all students should achieve for a given career. Each course is required to provide enhanced and improved instruction through the integration of rigorous academics, career success skills, career development skills and student leadership. Courses may include experience-based learning opportunities. Courses, if applicable, can be articulated with a postsecondary institution for advanced placement credit. A course can be a part of a sequence of courses that creates an overall program of study assisting the student in preparing an individual plan of study (IPS).

CAREER AND TECHNICAL EDUCATION (CTE) SEQUENCE OF COURSES: These courses include the career cluster pathway knowledge and skills as recognized by the career clusters. These courses provide learners with rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in current or emerging professions. They provide technical skill proficiency, an industry-recognized credential, a certificate, or a postsecondary degree, and may include prerequisite courses (other than remedial courses) that meet other requirements. Career and technical education courses may begin at eighth-grade and do not include career exploration courses. Academic courses are counted only if they reflect industry skill standards.

CAREER AND TECHNICAL STUDENT ORGANIZATIONS (CTSOs): These are student-led organizations which are aligned and integrated into CTE programs at the middle, secondary and/or postsecondary institutions. Members develop and demonstrate leadership, personal growth, civic engagement, technical skills and 21st century skills in authentic, real-world applications.

CAREER CLUSTER(S): These are divisions of the six Kansas industries (Industry Sectors) that include occupations organized around knowledge and skills that have common characteristics and job duties. Kansas identifies the following 13 broad clusters:

1. Advanced Manufacturing
2. Agriculture
3. Construction
4. Digital Technology
5. Education
6. Energy and Natural Resources
7. Financial Services
8. Healthcare and Human Services
9. Hospitality, Events and Tourism
10. Management and Entrepreneurship
11. Marketing and Sales
12. Public Service and Safety
13. Supply Chain and Transportation

EMPLOYABILITY SKILLS: These are foundational skills essential for success in all careers; including applied knowledge (academic and critical thinking skills), effective relationships (interpersonal skills and personal qualities), and workplace skills (resource management, information and communication, systems thinking and technology). Kansas CTE has identified the U.S. Department of Education's employability skills framework as a model of employability skills.

COMPLETER: This is a student who has completed a minimum of three (3) secondary level credits in a single CTE pathway, with at least two (2) of those credits being a combination of technical and application-level courses.

A completer must also earn or complete at least one or more of the following:

- Earn an end of pathway assessment/certification for completer status (industry-recognized certification or a passing score on a third-party, end-of-pathway assessment).
- Earn an Excel in CTE qualifying recognized credential aligned to the pathway.
- Earn nine (9) + college hours leading to completion of a certificate or postsecondary program aligned to the pathway's program of study.
- Complete a high-quality work-based learning career preparation experience, Kansas work-based learning continuum, in the pathway defined in Kansas Work-Based Learning: Personalized Learning Plan Guidance Document (ksde.gov).[2]

CROSSWALK (COMMON) COURSE: A course that is approved for inclusion in more than one career cluster pathway.

COURSE COMPETENCY: Statement that describes a unit of instruction (or duty area) related to course outcomes. A competency statement contains an active verb (that is observable and measurable) and a noun (instructional area). Specified competencies are identified and validated by business and industry and supported by the local advisory committee.

CTE CONCENTRATOR: The term "CTE concentrator" means-

(A) at the secondary school level, a student who has completed at least two (2) courses (equivalent to two (2) or more secondary level credits) in a single career and technical education pathway.

CTE PARTICIPANT: The term "CTE participant" means an individual who completes not less than one course (equivalent to a student who has earned one, but less than two secondary level credits) in a single career and technical education pathway.

CTE SCHOLAR: See Kansas CTE Scholar.

CIVIC ENGAGEMENT: The sharing of personal skills and knowledge by CTE students through actions intended to improve communities, states, nations, the world and themselves.

HIGH-DEMAND OCCUPATION: This is an occupation that has the following:

1. A critical shortage of workers to fill the employment demands of industry; and
2. Requires formal training exceeding that which can be provided on the job.

Kansas Department of Labor's Labor Market Information Services (LMIS) has created labor market information (LMI) organized by cluster and pathway. The LMI includes high-demand information.

HIGH-SKILL OCCUPATION: This is an occupation that requires all the following:

1. Specialized technical training;
2. An advanced level of skill sets as defined by each industry and/or education (examples: independent decision-making, critical thinking or problem-solving);
3. A recognized validation of skill attainment or credential (examples: certification, registration or licensure); and
4. Mandatory continuing education and/or training.

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2 KSDE. (2021). *Kansas Work-Based Learning: Personalized Learning Plan. https://KSDE.gov/Portals/0/CSAS/CSAS%20Home/CTE%20Home/Kansas%20Work-Based%20Learning_Personalized%20Learning%20Plan%20(updated%202-2021).pdf*?ver=2022-06-22-143054-737

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HIGH-WAGE OCCUPATION: Kansas Department of Labor's Labor Market Information Services (LMIS) has created labor market information (LMI) organized by cluster and pathway. The LMI includes high-wage information.

INDIVIDUAL PLAN OF STUDY: This is an individualized plan developed by a student (with guidance) to help guide them through the education process. It includes interest assessments to help students identify career preferences, assists with course selections based on career interests, looks at their postsecondary options and includes a portable electronic portfolio.

INTERNSHIP: This is a supervised work-based experience that links a learner with an employer for a planned set of activities designed to give the learner a broad overview of a business or occupational field (can be for a short- or long-term period).

INTRODUCTORY LEVEL COURSE: These are an introduction to a specific or multiple clusters or pathways that require similar foundation knowledge and skills taken prior to the technical and application-level courses.

KANSAS CAREER PATHWAY(S): These are organized groupings of rigorous academic and career related courses leading from education to employment, that identify each step, skill, educational requirement, and aptitude needed to be successful within any specific career. Currently there are 31 state-approved pathways identified within the 13 clusters.

KANSAS COMMON COURSE CODE: This is an alpha-numeric code used as a standard course description for secondary education intended to help schools and education agencies maintain longitudinal information about students' coursework in an efficient, standardized format, consistent from one system to the next.

KANSAS CTE SCHOLAR: This is an outstanding career and technical education student in their senior year who has met criteria to indicate their well-rounded development.

KANSAS INDUSTRIES: There are six industries displayed on the elementary school level graphic. They are recognized as Agriculture; Business; Design, Production, and Repair; Health and Human Services; Media and Technology; and Public Services.

PROFESSIONAL LEARNING EXPERIENCE (WORK-BASED EXPERIENCE): This experience is based on a learner's career interest that partners the learner with the school, community, and/or business/industry. It provides career or work opportunities above and beyond the classroom and may provide instruction in all aspects of the industry. These experiences are most commonly in application-level courses.

PROFICIENCY CREDIT: This is full or partial academic and/or CTE credit awarded to a student who has successfully demonstrated they have simultaneously met standards and expectations in more than one high school course through integrated academic and/or CTE courses.

PROGRAM(S) OF STUDY (POS): This is a plan that incorporates secondary education and postsecondary education elements; includes academic and career and technical content in a coordinated, non-duplicative progression of courses; and leads to an industry-recognized credential or certificate at the postsecondary level, or an associate or bachelor's degree. The Program of Study is a requirement for pathway approval.

TECHNICAL LEVEL COURSE: This is a course that builds on the knowledge and skills learned in the introductory level course with a focus on acquiring practical technical skills specific to the cluster/pathway.

21st CENTURY SKILLS: These are skills essential for workplace/career success including the following: critical thinking/problem-solving skills, communication skills, creativity and innovation skills, collaboration skills, information and media literacy skills, and contextual learning skills. They are integrated into what is known as 21st Century content which is: global awareness, financial, economic, business, and entrepreneurial literacy, civic literacy, health and wellness awareness, and environmental literacy.

UNIT OF CREDIT: This is a measure of credit that may be awarded to a student for satisfactory completion of a particular course or subject. A full unit of credit generally requires 120 clock hours to complete. Credit may be awarded in increments based upon the amount of time a course or subject is offered and generally requires to complete. Individual students may be awarded credit based upon demonstrated knowledge of the content of a course or subject, regardless of the amount of time spent by the student in the course or subject. (Article 6, Section 2(a) of the Kansas Constitution.)

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Advisory Committee Information

An Advisory Committee is a group of persons outside the education profession, comprised of representative laypeople, recognized and respected in their own fields of work who advise CTE educators, administrators, and local board of education members regarding clusters/pathways, based on the employment needs of the community, state, regional, national, and international marketplace.

ADVISORY COMMITTEE DESIGN: Each CTE cluster or pathway must establish its own industry-unique Advisory Committee. The committee can serve multiple pathways within a cluster, but the committee as a whole cannot serve multiple clusters. An individual may serve on more than one cluster advisory committee; if appropriate (i.e. a welder could serve on both the Agriculture and Manufacturing Cluster Advisory Committees).

GOALS , OBJECTIVES AND ACTIVITIES: The Advisory Committee members evaluate the Career and Technical Education (CTE) cluster/pathway they are serving and advise the CTE coordinator and local administration on improvement of the cluster/pathway. Suggestions for an advisory committee's input include:

- Analyze the course content.
- Assist with selecting appropriate industry credentials/certifications.
- Evaluate facilities, program equipment, teacher resources, and textbooks.
- Assist with the instructional and learning experience.
- Assist with internship and job opportunities
- Form partnerships.
- Advise on Short- and Long-range planning.
- Provide recommendations for pathway improvement.

ORGANIZATION OF AN ADVISORY COMMITTEE: Considerable attention should be given to the careful selection of members of the local Advisory Committee. The membership of a Career Cluster/Pathway Advisory Committee must include a minimum of three (3) representatives from business/industry with the optional addition of a postsecondary representative and a current student from its respective cluster/pathway. Business/Industry members need to make their living in areas related to the pathway.

- Membership of a Cluster level Advisory Committee would include a minimum of three representatives from business/industry for each pathway within the cluster.
- Ex-Officio (non-voting) members of the committee include district staff and administration representatives. District staff members are strongly encouraged to attend and participate in Advisory Committee meetings,even though they are non-voting members.

ADVISORY MEETINGS: Meetings are conducted a minimum of twice each school year with a focus on evaluating the current pathway(s). Annual discussion should include an evaluation of why the program exists. Review of labor market data, student interest and participation.

- CTE Course Competencies and Indicators[1]

ADVISORY COMMITEE INFORMATION

PATHWAY IMPROVEMENT PLAN: A written Pathway Improvement Plan is required for each approved pathway and is to be kept on file locally and updated annually. A plan that shows growth across a three-year period is required and should be written in S.M.A.R.T. Goal format. Topics should include goals for:

- Teacher Professional Development
- Physical Environment (Updating equipment and facilities)
- Instructional Strategies (Updating teacher resources, course additions,deletions, etc.)
- Partnerships (With parents, community, business/industry, and postsecondary institutions)
- Other

The Plan should be developed and approved by the Advisory Committee members and should be presented to the local Board of Education annually.

REGIONAL ADVISORY COMMITTEES: A Regional Advisory Committee is one that represents multiple schools/districts that have the same state approved pathway. Some guidelines for Regional Advisory Committees are as follows:

- Include business members that represent all communities included on the committee
- Include postsecondary members that represent all programs covered within the pathway
- Each meeting needs to speak to each school's specific pathway successes, concerns, improvements, etc.
- Need to develop Improvement Plans for each specific school represented
- Each school needs meeting minutes specific to their school that are kept on file locally.

For More Information on Advisory Committees: please consult the complete Advisory Committee Handbook, 2020[1].

1 https://KSDE.gov/Portals/0/CSAS/CSAS%20Home/CTE%20Home/Business_Industry/2020%20Advisory%20Committee%20Guidance%20Handbook.pdf?ver=2020-09-15-104407-093

Pathway Crossover Course Information

Several of our Pathway courses are utilized in more than one Pathway. The following pages contain a chart that shows which courses are in multiple Pathways.

Alphabetical by Course Title

Course Title	Number	Agricultural Technology & Mechanical Systems 01.0201	Animal Science, Health & Related Industries 01.0901	Diversified Agricultural Science 01.0000	Energy 14.4801	Food Products & Processing Systems 01.0401	Natural Resources & Environmental Sustainability 03.0101	Plant Science & Industry Operations 01.1101	Business Management & Entrepreneurship 52.0799	Business Finance 52.0801	Marketing 52.1402	Restaurant & Event Management 12.0504	Travel & Tourism 52.0901	Automation Engineering 15.0406	Aviation Maintenance and Operations 47.0607	Aviation Production 15.0000	Construction & Design 46.0000	Engineering & Applied Mathematics 14.0101	Manufacturing 48.0000	Vehicle Maintenance and Repair 47.0600	Biotechnology 26.1201	Family, Community & Consumer Services 44.000	Health Science 51.3901	Information Support & Services 11.0301	Media Design & Communications 11.0801	Networking & Telecommunications 11.0901	Programming & Software Development 11.0201	Early Childhood Development & Services 19.0709	Teaching/Training 13.0101	Corrections, Security, Law & Law Enforcement Services 43.0199	Government & Public Administration 44.0401	Emergency & Fire Management Services 43.0299
2D Animation	10202								X		X														X						
3D Animation	10210																								X						
AC Electronics	40450														X																
Accounting	12104								X	X	X																			X	X	
Advanced Accounting	33108									X																						
Advanced Agricultural Internship	18049	X				X	X	X																								
Advanced Agricultural Mechanics	18402	X																														
Advanced Agricultural Power	18411	X																														
Advanced Animal Science	18103		X																													
Advanced Business Management & Entrepreneurship Workplace Experience	32998								X																							
Advanced Drafting/CAD	21150																		X													
Advanced Electricity & Electronics	41270				X																											
Advanced Food Science	18317					X																										
Advanced Marketing Workplace Experience	12199										X																					
Advanced Materials & Fabrication	38010																X		X													
Advanced Media Design & Production	31091																								X							
Advanced Plant & Animal Science	18302		X	X				X																								
Aerospace Drawings I	41500															X																
Aerospace Drawings II	41510															X																
Aerospace Engineering	21013																	X														
Aerostructures	40620															X																
Agribusiness Management	18201	X	X	X		X	X	X																								
Agricultural Biotechnology	18308		X	X																												
Agricultural Construction	18403	X		X																												
Agricultural Engineering & Technology	18415	X		X																												
Agricultural Entrepreneurship	18202	X	X	X		X	X	X																								

PATHWAY CROSSOVER COURSE INFORMATION | **ALPHABETICAL BY COURSE TITLE**

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Agricultural Fabrication	18409	X		X																													
Agricultural Food Science	18305		X	X		X																											
Agricultural Internship	18048	X	X	X		X	X	X																									
Agricultural Leadership & Communications	18203	X	X	X		X	X	X																									
Agricultural Mechanics	18401	X		X																													
Agricultural Welding I	18404	X		X					X										X														
Agricultural Welding II	18407	X																	X														
Agriculture Explorations I	68001	X	X	X		X	X	X																									
Agriculture Explorations II	68002	X	X	X		X	X	X																									
Agriscience	18002	X	X	X		X	X	X	X																								
Aircraft Systems	40420														X	X																	
Alternative Power	40210																			X													
AMT General I	40431														X																		
AMT General II	40432														X																		
AMT General III	40433														X																		
AMT General IV	40434														X																		
Anatomy & Physiology	03053																				X		X										
Animal Health	18105		X																														
Animal Science	18101		X	X		X																											
AP Computer Science A	10157																											X					
AP Computer Science Principles	31094																											X					
AP Environmental Science	03207				X																												
Applied Biochemistry	03203																				X												
Applied Biotechnology	18320																				X												
Applied Business Development	32200								X			X																					
Applied Business Technology Applications	33110									X	X																						
Applied Game Design	10165																									X							
Applied Graphic Design	31090																									X							
Applied Telecommunications	11049																										X						
Architectural Design I	21203																X																
Architectural Design II	38223																X																
Audio/Video Production I	30103										X															X							
Audio/Video Production II	30150																									X							
Auto Collision I	40300								X												X												
Auto Collision II	40302																				X												
Auto Refinishing I	40310																				X												

PATHWAY CROSSOVER COURSE INFORMATION | **ALPHABETICAL BY COURSE TITLE**

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Auto Refinishing II	40312																			X													
Automated Integrated Systems I	39010													X					X														
Automated Integrated Systems II	39020													X																			
Aviation Fundamentals	40410														X	X																	
Aviation Tooling	40600															X																	
Aviation Work Experience - Comprehensive	40701														X																		
Baking & Pastry I	16056											X																					
Baking & Pastry II	16057											X																					
Banking & Finance	12101									X																							
Basic Automotive Care and Information	40050																			X													
Biomedical Innovation	14255																				X												
Bioscience Workplace Experience	14998																				X												
Biotechnology Essentials	21014																				X												
Brakes I	40204																			X													
Brakes II	40206																			X													
Business Communications	12009								X	X	X																					X		
Business Economics	12105								X	X	X																					X	X	
Business Essentials	12050								X	X	X	X	X							X														
Business Law	12054								X	X																						X	X	
Business Management	12052								X		X																					X	X	
Business Management & Entrepreneurship Workplace Experience	12098								X																									
Capstone in Agriculture	18003			X																														
Care of Athletes	14062																							X										
Career & Life Planning	19258											X	X										X						X	X		X		
Career Connections	19298											X	X																			X		
CDL Entry Level Driver Training	40240																			X														
Certified Medication Aide	36156																							X										
Certified Nursing Assistant	14997																							X										
Certified Patient Care Technician	14202																							X										
Certified Protection Officer	44210																															X		
Chemistry	03101																					X		X										
Civil Engineering & Architecture	21012																	X																
Coaching & Leadership	19154																														X			
College Accounting	33109									X																								
Community Connections	19297											X	X																					

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Composites	40640															X																
Computer Applications (Grade 8/Grade 9)	60004/10004																				X			X	X	X	X					
Computer Integrated Manufacturing	21010													X				X														
Computer Programming	10152													X											X		X					
Computer Programming – Other Languages	10156																										X					
Computer-Aided Machining (CAM) I	13204								X										X													
Computer-Aided Machining (CAM) II	39205																		X													
Computing Systems (Grade 8/Grade 9)	60002/10002																				X			X		X	X					
Corrections Officer	44215																													X		
Crop & Range Management	18081							X																								
Culinary Arts I	16053											X																				
Culinary Arts II	16055											X																				
Culinary Essentials	16052								X			X	X										X									
Culinary Workplace Experience	16098											X																				
Cybersecurity I	10020													X											X			X				
Cybersecurity II	10900																								X			X				
Data System/Processing	10054																											X				
Database Applications	10053																											X				
DC Electronics	40460														X																	
Diesel and Heavy Equipment Technology I	40218																			X												
Diesel and Heavy Equipment Technology II	40238																			X												
Diesel and Heavy Equipment Technology III	40239																			X												
Digital Electronics	21008													X	X			X	X								X					
Digital Marketing and Advertising	35162								X		X																					
Digital Media Technology	30104																								X							
Dimensions of Wellness	19250																						X									
Drafting/Architecture I	21103																X															
Drafting/Architecture II	38050																X															
Drafting/CAD	21107								X							X	X	X	X													
Drafting/Print Reading	21102																X															
Drawing for Designers	30006																								X							
Drive Train Technology I	40208																			X												
Early Childhood Applications	19098																												X			
Educational Leadership	19198																													X		
EKG Technician	36991																							X								
Electrical Technology	17113																X		X													

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Electronics & Electrical Systems I	40200																			X												
Electronics & Electrical Systems II	40202																			X												
Emerging Technologies	21053																	X			X											
EMS First Responder	44050																						X							X		X
EMT I	44060																						X									X
EMT II	44065																						X									X
Energy Industry Fundamentals	41105				X																											
Energy, Power & Society	41150				X																											
Engine Mechanical Repair	40216																			X												
Engine Performance I	40220																			X												
Engine Performance II	40222																			X												
Engineering Design	21006													X				X														
Engineering Design & Development	21007								X									X														
Entrepreneurship	12053								X	X	X	X	X							X								X				
Environmental Resources & Ecology	37506						X																									
Equine Science	18104		X	X																												
Event Planning & Management	34052										X	X	X																			
Family Studies	19255																						X					X	X			
Fire Science I	44100																															X
Fire Science II	44101																															X
Fire Service Special Operations	44080																															X
Food Science	19254					X						X									X											
Forensic Science I	44225																														X	
Forensic Science II	44226																														X	
Foundations in Law	44305																														X	X
Foundations of Early Childhood Development	19052								X																					X		
Foundations of Electronics	21201				X									X	X			X	X													
Foundations of Hospitality & Lodging	16101												X																			
Foundations of Information Technology	10001																								X		X					
Foundations of Mental and Behavioral Health	19260																						X									
Foundations of Rehab	14060																							X								
Foundations of Travel & Tourism	16151										X	X	X																			
Fundamentals of Electrical Theory	17101													X																		
Fundamentals of Electricity & Electronics	41170				X																						X					
Fundamentals of Emergency Services	14055																							X								
General Carpentry I	17002								X								X															

PATHWAY CROSSOVER COURSE INFORMATION | **ALPHABETICAL BY COURSE TITLE**

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General Carpentry II	38002																X																
General Service I	40150								X											X														
General Service II	40152																			X														
General Service III	40154																			X														
GIS Spatial Applications	21112																									X								
GIS Technology	21058																									X								
Governance Applications	43250																																X	
Government & Public Administration Fundamentals	43105																																X	
Government & Public Media Relations	04990																																X	
Graphic Design I	30102										X															X								
Graphic Design II	05162																									X								
Graphic Design Workplace Experience	10248																									X								
Hand & Power Tools	40400													X	X	X			X															
Hazardous Materials for the First Responder	44070																															X		X
Health Care Essentials I	14254																							X										
Health Care Essentials II	36254																							X										
Health Care Work Experience I	36992																							X										
Health Care Work Experience II	36993																							X										
Home Health Aide	36053																							X										
Horticulture	18052			X		X		X																										
Horticulture, Floriculture & Greenhouse Management	18057							X																										
Hospitality & Lodging Management	16148												X																					
Human Body Systems	14102																					X		X										
Human Growth & Development – Early Years	45004																						X						X	X				
HVAC Technology	17056				X												X		X															
Hydraulics & Pneumatics	39302				X									X					X															
IB Business & Management	12059								X		X																							
IB Computing	10159																											X						
Industrial Maintenance Systems	13303													X																				
Information Support & Services I	10052																								X									
Information Support & Services II	10097																								X									
Interactive Media	10203																									X								
Interior Architectural Design	38212																X																	
Interior Design I	19263																X																	
Interior Design II	22212																X																	
Introduction to Agriculture	18001	X	X	X		X	X	X																										

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Introduction to Computer Coding	31001													X														X					
Introduction to Education	19199																												X	X				
Introduction to Emergency Medical Services (EMS)	44005																																	X
Introduction to Energy	41100				X																													
Introduction to Engineering	41310													X				X																
Introduction to Environmental Science	41207				X																													
Introduction to Family & Consumer Sciences	19251											X	X										X						X	X				
Introduction to Government & Public Administration	43001																																X	
Introduction to Health Care	14000																							X										
Introduction to Law, Public Safety, Corrections & Security (LPSCS)	44001																														X			X
Introduction to Manufacturing	13001													X																				
Introduction to Physical Computing	31002													X														X						
Introduction to Skilled Trades	38001													X	X	X	X		X	X														
Introduction to Web & Digital Media	05254																								X									
Introduction to Welding	13207																		X															
Investing	12107									X																								
IoT Internet of Things	60006/10006																									X								
IT for Service Professions	44010																																X	
Journalism & Media Communications	30100																								X									
Law Enforcement I	44200																														X			
Law Enforcement II	44201																														X			
Leadership Service in Action	19257																						X						X					
Legal Proceedings	44310																														X	X		
Lifespan Development	45014																						X							X		X		
Machine Tool Technology	13203																		X															
Marketing – Workplace Experience	12198										X																							
Marketing Applications	35300										X																							
Marketing Communications	35168										X																							
Marketing Management	12166										X																							
Marketing Research	12196										X																							
Materials Science in Engineering	41355				X									X				X																
Mechanical Power Transmission Systems	13302				X									X					X															
Mechanical/Electrical/Plumbing (MEP) I	17062																X																	
Media & Public Relations	43115																								X									
Media Design & Production	30151																								X									

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Medical Imaging	14103																						X									
Medical Interventions	14105																				X		X									
Medical Terminology	14154																						X									X
Meteorology	03006				X																											
Mobile HVAC	40228																			X												
Natural Resource Management	18504			X			X																									
Network Systems I	10112																									X						
Network Systems II	10147																									X						
Nursery & Landscape Operations	18067							X																								
Nutrition & Dietetics	19253											X	X									X	X									
Orientation to Early Childhood Development	19051																												X			
Particular Topics in Computer Programming	10160																										X					
Particular Topics in Engineering	21015																	X			X											
Pharmacology	14253																				X		X									
Photo Imaging	30105																								X							
Plant & Animal Science	18301		X	X				X																								
Plant & Soil Science	18058			X		X		X														X										
Plumbing Technology	17058																X		X													
Practical Law	44300																													X	X	
Principles of Applied Engineering	41320				X													X														
Principles of Biomedical Science	14251																				X											
Principles of Illustration	30101																								X							
Principles of Marketing	12164								X		X	X	X																			
Principles of Pharmacy	36157																						X									
Principles of Phlebotomy	14104																						X									
Private Pilot Ground School	40540														X																	
Production Methods I	13052															X			X													
Production Methods II	39052																		X													
Production Print Reading I	21108													X	X	X	X	X	X													
Production Print Reading II	39108																		X													
Project Management	41350																	X														
Remodeling & Building Maintenance	17009								X								X		X													
Research & Design for Preconstruction	21109																X															
Research & Design in Building Trades	17005																X															
Research in Agriculture	18206	X	X	X		X	X	X																								
Risk Management & Insurance	12106									X																						

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Robotics I	21009													X				X	X		X											
Robotics II	39009													X																		
Sheet Metal Technology	13205																X		X													
Small Animal Care	18102		X	X																												
Small Engine & Powertrains I	40212																			X												
Small Engines & Powertrains II	40214																			X												
Small Power Systems	18410	X		X																												
Small Uncrewed Aircraft Systems (sUAS)	40490														X																	
Special Projects & Research in Aviation	41520															X																
Sports Medicine I	14072																						X									
Sports Medicine II	14073																						X									
Sports/Entertainment Marketing	12163										X																					
Steering & Suspension I	40224																			X												
Steering & Suspension II	40226																			X												
Sustainable/Alternative Agriculture	18310			X			X																									
Teaching as a Career	19151																													X		
Teaching Internship	19152																													X		
Teaching Observation	42251																												X	X		
Technical Introduction to Computer Science	41010																											X				
Technology for Teachers	19155																													X		
Telecom Workplace Experience	11048																									X						
Telecommunications	10106																									X						
Web & Design Workplace Experience	31096																								X							
Web Design	10201								X		X														X		X					
Welding Processes I	39207	X		X					X					X					X													
Welding Processes II	39208	X																	X													
Wildlife & Recreation Management	18501						X																									
Wind Energy Operations	41160				X																											
Woodworking Principles	17007																X															
Work Experience in Aviation	40700														X																	
Work Experience in LPSCS	44298																														X	X
Work Experience in Manufacturing	13348																			X												
Work Experience in Manufacturing – Comprehensive	13998																			X												
Work Experience in Transportation	40250																				X											
Work Experience in Transportation – Comprehensive	40251																				X											
Work-based Learning in Information Support & Services	10098																							X								

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Work-based Learning in Programming & Software Development	10198																										X					
Workplace Experience in Architecture & Construction	38100																X															
Workplace Experience in Architecture & Construction - Comprehensive	38110																X															
Workplace Experience in Early Childhood Development	19301																											X				
Workplace Experience in Early Childhood Development - Comprehensive	19302																											X				
Workplace Experience in Energy	41250				X																											
Workplace Experience in Energy – Comprehensive	41260				X																											
Workplace Experience in Engineering	41048													X		X		X														
Workplace Experience in Engineering – Comprehensive	21048													X		X		X														
Workplace Experience in Finance	12148									X																						
Workplace Experience in Finance - Advanced	33200									X																						
Workplace Experience in Human Service	19296																						X									
Workplace Experience in Human Services - Comprehensive	19299																						X									

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03006	Meteorology				x																											
03053	Anatomy & Physiology																				x		x									
03101	Chemistry																				x		x									
03203	Applied Biochemistry																				x											
03207	AP Environmental Science				x																											
04990	Government & Public Media Relations																														x	
05162	Graphic Design II																								x							
05254	Introduction to Web & Digital Media																								x							
10001	Foundations of Information Technology																							x		x						
10020	Cybersecurity I													x										x			x					
10052	Information Support & Services I																							x								
10053	Database Applications																										x					
10054	Data System/Processing																										x					
10097	Information Support & Services II																							x								
10098	Work-based Learning in Information Support & Services																							x								
10106	Telecommunications																									x						
10112	Network Systems I																									x						
10147	Network Systems II																									x						
10152	Computer Programming													x											x		x					
10156	Computer Programming – Other Languages																										x					
10157	AP Computer Science A																										x					
10159	IB Computing																										x					
10160	Particular Topics in Computer Programming																										x					
10165	Applied Game Design																								x							
10198	Work-based Learning in Programming & Software Development																										x					
10201	Web Design								x		x														x		x					
10202	2D Animation								x		x														x							
10203	Interactive Media																								x							
10210	3D Animation																								x							
10248	Graphic Design Workplace Experience																								x							
10900	Cybersecurity II																							x			x					
11048	Telecom Workplace Experience																									x						
11049	Applied Telecommunications																									x						
12009	Business Communications								x	x	x																				x	

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12050	Business Essentials								X	X	X	X	X							X												
12052	Business Management								X		X																			X	X	
12053	Entrepreneurship								X	X	X	X	X							X									X				
12054	Business Law								X	X																				X	X	
12059	IB Business & Management								X		X																					
12098	Business Management & Entrepreneurship Workplace Experience								X																							
12101	Banking & Finance									X																						
12104	Accounting								X	X	X																			X	X	
12105	Business Economics								X	X	X																			X	X	
12106	Risk Management & Insurance									X																						
12107	Investing									X																						
12148	Workplace Experience in Finance									X																						
12163	Sports/Entertainment Marketing										X																					
12164	Principles of Marketing								X		X	X	X																			
12166	Marketing Management										X																					
12196	Marketing Research										X																					
12198	Marketing – Workplace Experience										X																					
12199	Advanced Marketing Workplace Experience										X																					
13001	Introduction to Manufacturing													X																		
13052	Production Methods I															X			X													
13203	Machine Tool Technology																		X													
13204	Computer-Aided Machining (CAM) I								X										X													
13205	Sheet Metal Technology																X		X													
13207	Introduction to Welding																		X													
13302	Mechanical Power Transmission Systems				X									X					X													
13303	Industrial Maintenance Systems													X																		
13348	Work Experience in Manufacturing																		X													
13998	Work Experience in Manufacturing – Comprehensive																		X													
14000	Introduction to Health Care																						X									
14055	Fundamentals of Emergency Services																						X									
14060	Foundations of Rehab																						X									
14062	Care of Athletes																						X									
14072	Sports Medicine I																						X									
14073	Sports Medicine II																						X									
14102	Human Body Systems																					X		X								

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14103	Medical Imaging																						X									
14104	Principles of Phlebotomy																						X									
14105	Medical Interventions																				X		X									
14154	Medical Terminology																						X									X
14202	Certified Patient Care Technician																						X									
14251	Principles of Biomedical Science																				X											
14253	Pharmacology																				X		X									
14254	Health Care Essentials I																						X									
14255	Biomedical Innovation																				X											
14997	Certified Nursing Assistant																						X									
14998	Bioscience Workplace Experience																				X											
16052	Culinary Essentials								X			X	X									X										
16053	Culinary Arts I											X																					
16055	Culinary Arts II											X																					
16056	Baking & Pastry I											X																					
16057	Baking & Pastry II											X																					
16098	Culinary Workplace Experience											X																					
16101	Foundations of Hospitality & Lodging												X																				
16148	Hospitality & Lodging Management												X																				
16151	Foundations of Travel & Tourism										X	X	X																				
17002	General Carpentry I								X								X																
17005	Research & Design in Building Trades																X																
17007	Woodworking Principles																X																
17009	Remodeling & Building Maintenance								X								X		X														
17056	HVAC Technology				X												X		X														
17058	Plumbing Technology																X		X														
17062	Mechanical/Electrical/Plumbing (MEP) I																X																
17101	Fundamentals of Electrical Theory													X																			
17113	Electrical Technology																X		X														
18001	Introduction to Agriculture	X	X	X		X	X	X																									
18002	Agriscience	X	X	X		X	X	X	X																								
18003	Capstone in Agriculture			X																													
18048	Agricultural Internship	X	X	X		X	X	X																									
18049	Advanced Agricultural Internship	X				X	X	X																									
18052	Horticulture			X		X		X																									
18057	Horticulture, Floriculture & Greenhouse Management							X																									

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18058	Plant & Soil Science			x		x		x													x											
18067	Nursery & Landscape Operations							x																								
18081	Crop & Range Management							x																								
18101	Animal Science		x	x		x																										
18102	Small Animal Care		x	x																												
18103	Advanced Animal Science		x																													
18104	Equine Science		x	x																												
18105	Animal Health		x																													
18201	Agribusiness Management	x	x	x		x	x	x																								
18202	Agricultural Entrepreneurship	x	x	x		x	x	x																								
18203	Agricultural Leadership & Communications	x	x	x		x	x	x																								
18206	Research in Agriculture	x	x	x		x	x	x																								
18301	Plant & Animal Science		x	x				x																								
18302	Advanced Plant & Animal Science		x	x				x																								
18305	Agricultural Food Science		x	x		x																										
18308	Agricultural Biotechnology		x	x																												
18310	Sustainable/Alternative Agriculture			x			x																									
18317	Advanced Food Science					x																										
18320	Applied Biotechnology																				x											
18401	Agricultural Mechanics	x		x																												
18402	Advanced Agricultural Mechanics	x																														
18403	Agricultural Construction	x		x																												
18404	Agricultural Welding I	x		x					x											x												
18407	Agricultural Welding II	x																		x												
18409	Agricultural Fabrication	x		x																												
18410	Small Power Systems	x		x																												
18411	Advanced Agricultural Power	x																														
18415	Agricultural Engineering & Technology	x		x																												
18501	Wildlife & Recreation Management						x																									
18504	Natural Resource Management			x			x																									
19051	Orientation to Early Childhood Development																												x			
19052	Foundations of Early Childhood Development								x																				x			
19098	Early Childhood Applications																												x			
19151	Teaching as a Career																													x		
19152	Teaching Internship																													x		
19154	Coaching & Leadership																													x		

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19155	Technology for Teachers																												X				
19198	Educational Leadership																												X				
19199	Introduction to Education																											X	X				
19250	Dimensions of Wellness																					X											
19251	Introduction to Family & Consumer Sciences											X	X									X						X	X				
19253	Nutrition & Dietetics											X	X									X	X										
19254	Food Science					X						X									X												
19255	Family Studies																					X						X	X				
19257	Leadership Service in Action																					X						X					
19258	Career & Life Planning											X	X									X						X	X			X	
19260	Foundations of Mental and Behavioral Health																					X											
19263	Interior Design I																X																
19296	Workplace Experience in Human Service																					X											
19297	Community Connections											X	X																				
19298	Career Connections											X	X																			X	
19299	Workplace Experience in Human Services - Comprehensive																					X											
19301	Workplace Experience in Early Childhood Development																												X				
19302	Workplace Experience in Early Childhood Development - Comprehensive																												X				
21006	Engineering Design													X				X															
21007	Engineering Design & Development								X									X															
21008	Digital Electronics													X	X			X	X								X						
21009	Robotics I													X				X	X		X												
21010	Computer Integrated Manufacturing													X				X															
21012	Civil Engineering & Architecture																	X															
21013	Aerospace Engineering																	X															
21014	Biotechnology Essentials																				X												
21015	Particular Topics in Engineering																	X			X												
21048	Workplace Experience in Engineering – Comprehensive													X		X		X															
21053	Emerging Technologies																	X			X												
21058	GIS Technology																										X						
21102	Drafting/Print Reading																X																
21103	Drafting/Architecture I																X																
21107	Drafting/CAD								X							X	X	X	X														
21108	Production Print Reading I													X	X	X	X	X	X														
21109	Research & Design for Preconstruction																X																

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21112	GIS Spatial Applications																									X							
21150	Advanced Drafting/CAD																		X														
21201	Foundations of Electronics				X									X	X			X	X														
21203	Architectural Design I																X																
22212	Interior Design II																X																
30006	Drawing for Designers																								X								
30100	Journalism & Media Communications																								X								
30101	Principles of Illustration																								X								
30102	Graphic Design I										X														X								
30103	Audio/Video Production I										X														X								
30104	Digital Media Technology																								X								
30105	Photo Imaging																								X								
30150	Audio/Video Production II																								X								
30151	Media Design & Production																								X								
31001	Introduction to Computer Coding													X														X					
31002	Introduction to Physical Computing													X														X					
31090	Applied Graphic Design																								X								
31091	Advanced Media Design & Production																								X								
31094	AP Computer Science Principles																											X					
31096	Web & Design Workplace Experience																								X								
32200	Applied Business Development								X			X																					
32998	Advanced Business Management & Entrepreneurship Workplace Experience								X																								
33108	Advanced Accounting									X																							
33109	College Accounting									X																							
33110	Applied Business Technology Applications									X	X																						
33200	Workplace Experience in Finance - Advanced									X																							
34052	Event Planning & Management										X	X	X																				
35162	Digital Marketing and Advertising								X		X																						
35168	Marketing Communications										X																						
35300	Marketing Applications										X																						
36053	Home Health Aide																							X									
36156	Certified Medication Aide																							X									
36157	Principles of Pharmacy																							X									
36254	Health Care Essentials II																							X									
36991	EKG Technician																							X									

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36992	Health Care Work Experience I																						X										
36993	Health Care Work Experience II																						X										
37506	Environmental Resources & Ecology						X																										
38001	Introduction to Skilled Trades													X	X	X	X		X	X													
38002	General Carpentry II																X																
38010	Advanced Materials & Fabrication																X		X														
38050	Drafting/Architecture II																X																
38100	Workplace Experience in Architecture & Construction																X																
38110	Workplace Experience in Architecture & Construction - Comprehensive																X																
38212	Interior Architectural Design																X																
38223	Architectural Design II																X																
39009	Robotics II													X																			
39010	Automated Integrated Systems I													X					X														
39020	Automated Integrated Systems II													X																			
39052	Production Methods II																		X														
39108	Production Print Reading II																		X														
39205	Computer-Aided Machining (CAM) II																		X														
39207	Welding Processes I	X		X					X					X					X														
39208	Welding Processes II	X																	X														
39302	Hydraulics & Pneumatics				X									X					X														
40050	Basic Automotive Care and Information																			X													
40150	General Service I								X											X													
40152	General Service II																			X													
40154	General Service III																			X													
40200	Electronics & Electrical Systems I																			X													
40202	Electronics & Electrical Systems II																			X													
40204	Brakes I																			X													
40206	Brakes II																			X													
40208	Drive Train Technology I																			X													
40210	Alternative Power																			X													
40212	Small Engine & Powertrains I																			X													
40214	Small Engines & Powertrains II																			X													
40216	Engine Mechanical Repair																			X													
40218	Diesel and Heavy Equipment Technology I																			X													
40220	Engine Performance I																			X													

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40222	Engine Performance II																			X												
40224	Steering & Suspension I																			X												
40226	Steering & Suspension II																			X												
40228	Mobile HVAC																			X												
40238	Diesel and Heavy Equipment Technology II																			X												
40239	Diesel and Heavy Equipment Technology III																			X												
40240	CDL Entry Level Driver Training																			X												
40250	Work Experience in Transportation																			X												
40251	Work Experience in Transportation – Comprehensive																			X												
40300	Auto Collision I								X											X												
40302	Auto Collision II																			X												
40310	Auto Refinishing I																			X												
40312	Auto Refinishing II																			X												
40400	Hand & Power Tools													X	X	X			X													
40410	Aviation Fundamentals														X	X																
40420	Aircraft Systems														X	X																
40431	AMT General I														X																	
40432	AMT General II														X																	
40433	AMT General III														X																	
40434	AMT General IV														X																	
40450	AC Electronics														X																	
40460	DC Electronics														X																	
40490	Small Uncrewed Aircraft Systems (sUAS)														X																	
40540	Private Pilot Ground School														X																	
40600	Aviation Tooling															X																
40620	Aerostructures															X																
40640	Composites															X																
40700	Work Experience in Aviation														X																	
40701	Aviation Work Experience - Comprehensive														X																	
41010	Technical Introduction to Computer Science																										X					
41048	Workplace Experience in Engineering													X		X		X														
41100	Introduction to Energy				X																											
41105	Energy Industry Fundamentals				X																											
41150	Energy, Power & Society				X																											
41160	Wind Energy Operations				X																											
41170	Fundamentals of Electricity & Electronics				X																						X					

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41207	Introduction to Environmental Science				X																												
41250	Workplace Experience in Energy				X																												
41260	Workplace Experience in Energy – Comprehensive				X																												
41270	Advanced Electricity & Electronics				X																												
41310	Introduction to Engineering													X				X															
41320	Principles of Applied Engineering				X													X															
41350	Project Management																	X															
41355	Materials Science in Engineering				X									X				X															
41500	Aerospace Drawings I															X																	
41510	Aerospace Drawings II															X																	
41520	Special Projects & Research in Aviation															X																	
42251	Teaching Observation																												X	X			
43001	Introduction to Government & Public Administration																															X	
43105	Government & Public Administration Fundamentals																															X	
43115	Media & Public Relations																								X								
43250	Governance Applications																															X	
44001	Introduction to Law, Public Safety, Corrections & Security (LPSCS)																														X		X
44005	Introduction to Emergency Medical Services (EMS)																																X
44010	IT for Service Professions																															X	
44050	EMS First Responder																							X							X		X
44060	EMT I																							X									X
44065	EMT II																							X									X
44070	Hazardous Materials for the First Responder																														X		X
44080	Fire Service Special Operations																																X
44100	Fire Science I																																X
44101	Fire Science II																																X
44200	Law Enforcement I																														X		
44201	Law Enforcement II																														X		
44210	Certified Protection Officer																														X		
44215	Corrections Officer																														X		
44225	Forensic Science I																														X		
44226	Forensic Science II																														X		
44298	Work Experience in LPSCS																														X		X
44300	Practical Law																														X	X	
44305	Foundations in Law																														X	X	

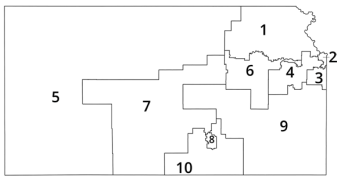
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44310	Legal Proceedings																													X	X	
45004	Human Growth & Development – Early Years																					X						X	X			
45014	Lifespan Development																					X							X		X	
68001	Agriculture Explorations I	X	X	X		X	X	X																								
68002	Agriculture Explorations II	X	X	X		X	X	X																								
60002/10002	Computing Systems (Grade 8/Grade 9)																				X			X		X	X					
60004/10004	Computer Applications (Grade 8/Grade 9)																				X			X	X	X	X					
60006/10006	IoT Internet of Things																									X						

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- Academic preparation,
- Cognitive preparation,
- Technical skills,
- Employability skills and
- Civic engagement

to be successful in postsecondary education, in the attainment of an industry recognized certification or in the workforce, without the need for remediation.

OUTCOMES

- Social-emotional growth
- Kindergarten readiness
- Individual Plan of Study
- Civic engagement
- Academically prepared for postsecondary
- High school graduation
- Postsecondary success

Kansans CAN

MISSION

To prepare Kansas students for lifelong success through rigorous, quality academic instruction, career training and character development according to each student's gifts and talents.

VISION

Kansas leads the world in the success of each student.

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Kansas leads the world in the success of each student.

July 1, 2025

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