

Arkansas Department of Career and Technical Education Program Operational Guide

2018-2019 / 2019-2020



Arkansas Department of
Career Education

Career & Technical Education



Asa Hutchinson, Governor
Dr. Charisse Childers, Director

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Course Code Information:

At the time of publication, some course codes had not been issued. If a course has a **highlighted** note in reference to a course code, and your school is planning on teaching this course during the 2018-2019 academic year, a one-time course code will need to be requested.

To request a one-time course code, please submit the form located at the following URL:

<https://goo.gl/forms/3d6uCzyekUtnsZ8s1>. Once processed, the person who submitted the request will receive an email containing the course code to use.

2018 Arkansas Standards of Accreditation ARCareerEd Defined Requirements

1-A.1.2 For Grades 5-8, all students shall receive instruction annually in each of the following content areas (S/P):

- 1-A.1.2.1 English Language Arts;
- 1-A.1.2.2 Mathematics;
- 1-A.1.2.3 Science;
- 1-A.1.2.4 Social Studies;
- 1-A.1.2.5 Physical Education;
- 1-A.1.2.6 Fine Arts;
- 1-A.1.2.7 Health and Safety; and
- 1-A.1.2.8 Career and Technical Education.

To comply with State Standard 1-A.1.2.8, ARCareerEd defines the foundation courses required for all Career and Technical Education (CTE) program as:

Courses 399050 Keyboarding 7-8 or KeyCode 399320 **and** 399280 Career Development shall be instructed in grades 7 or 8 annually. If a district wishes to offer Keyboarding at a grade level lower than grade 7, approval must be sought from ARCareerEd prior to implementation. This request should be submitted to the Program Coordinator of the Business and Marketing Education office.

**If a school currently has an approved transition plan in place which allows Keyboarding to be taught in a grade lower than 7, ARCareerEd will honor the provisions of the approved plan until such time as the school requests the plan be rescinded.*

1-A.1.3 For Grades 9-12, the following content areas shall be offered annually for a total of 38 units, except as otherwise allowed by law and these rules (S/P):

- 1-A.1.3.1 English Language Arts - 6 units;
- 1-A.1.3.2 Science - 5 units;
- 1-A.1.3.3 Mathematics - 6 units;
- 1-A.1.3.4 Computer Science - 1 unit;
- 1-A.1.3.5 Foreign Languages - 2 units of the same language;
- 1-A.1.3.6 Fine Arts - 3 ½ units;
- 1-A.1.3.7 Social Studies - 4 units;
- 1-A.1.3.8 Health and Safety Education and Physical Education - 1 ½ units; and
- 1-A.1.3.9 Career and Technical Education - 9 units of sequenced career and technical education courses representing three (3) occupational areas.

To comply with State Standard 1-A.1.3.9, schools must:

Offer 1 program of study from 3 different Occupational Areas annually. Each Occupational Area defines the required entry level (core) course for each program of study. Core courses must be offered annually.

Statement of Assurance

All vocational opportunities are offered without regard to race, color, national origin, sex, handicap, or age. The following civil rights laws protect individuals from discrimination in programs or activities receiving federal financial assistance:

- Title IV of the Civil Rights Act of 1964
- Title IX of the Education Amendments of 1972
- Section 504 of the Rehabilitation Act of 1973
- Age Discrimination Act of 1975

RELATED LINK: Go to the Department of Labor for assistance with specific laws and regulations, <http://www.dol.gov/dol/compliance/compliance-majorlaw.htm>.

Program Approval Process

Annual Program Approval

If a program had full approval during the previous year and one of the following actions applies the following year, then the district will receive the program status indicated.

ACTION	STATUS TO RECEIVE
Critical Elements, including Safety Violations, received from previous Technical Assistance visit & improvement plan not approved (see list below)	Disapproval
No CTSO previous year	Conditional Approval
No program of study	Conditional Approval
No required foundations (reviewed by appropriate program area)	Conditional Approval
Meets all ARCareerEd policies and standards	FULL APPROVAL

If a program was conditionally approved during the previous year and one of the following actions applies the following year, then the district will receive the program status indicated.

ACTION	STATUS TO RECEIVE
Problems are corrected	FULL APPROVAL
Problems not corrected	Disapproval
Critical Elements received from previous Technical Assistance visit & improvement plan not approved (see list below)	Disapproval

Onsite Compliance Review (Technical Assistance Visit)

Onsite technical reviews are conducted on a five-year rotation. All information regarding these Technical Assistance (TA) visits can be found on the ARCareerEd website www.arcareered.org under Career & Technical Education, CTE Administration.

Minimum Facility Requirements

<http://arkansasfacilities.arkansas.gov/>

SAFETY

Space and special equipment for CTE laboratories are varied and unique. Safety should be of the utmost consideration at all times in planning a facility and locating equipment. Sufficient electrical power should be included to support major pieces of equipment in the lab, including a sufficient number of electrical outlets. OSHA standards shall be followed where applicable.

A student wash up area shall be provided. Proper exhaust and filtration of harmful fumes/dust shall be provided. The laboratory shall be zoned and color coded identifying specific work areas and pedestrian walkways. Large open areas for instructional activities shall be provided.

Caution must be exercised and enrollment must be limited so that an overcrowded situation does not occur. For the specifications for the laboratory areas, please see the Arkansas Facilities website listed above.

Minimum Start-up Equipment Requirements

Each Career and Technical Education (CTE) Occupational Program Area issues equipment lists annually. The equipment lists are considered the *minimum* equipment necessary for students to master the program area standards established by ARCareerEd. The current version of equipment lists applies to new programs being implemented during the school year in which the equipment lists are issued.

Equipment lists may be located at www.arcareered.org under Career and Technical Education, Occupational Program Areas.

Foundation Courses for All CTE Programs of Study

399050 Keyboarding
1 Semester Grade Levels: 7-8 (NO CREDIT)

Keyboarding is a one-semester course designed to help students develop speed and accuracy by learning the touch operation of alphanumeric/keyboard characters. Emphasis is placed on the following: mastery of the keyboard with desirable keyboarding techniques; development of speed and accuracy; basic problem-solving applications of centering and arranging reports, letters, and tables; proofreading; formatting; and proper care of the equipment. Keyboarding is a foundation for developing entry-level skills for business careers.

399320 KeyCode
1 Semester Grade Levels: 7-8 (NO CREDIT)

KeyCode is a one-semester course designed to cover the state keyboarding and computer science coding block standards. Emphasis is placed on the following: understanding the importance of Career and Technical Student Organizations (CTSO), soft skill development, operation and management of classroom equipment, touch typing method, simple document formatting, and the computer science coding block. A minimum of 5 weeks shall be dedicated to students using keyboarding skills as they relate to formulating algorithms as well as create, analyze, test and debug computer programs in order to solve real-world problems. A text based programming language is required to accomplish these tasks.

399100 Career Orientation
1 Semester Grade Levels: 7-8 (8th grade recommended) (NO CREDIT)

This foundation course for all programs of study uses hands-on activities and research to provide an opportunity for exploring careers in the 16 career clusters. Career preparation and development begins with the establishment of individual career and education plans. **(This course is planned to transition out, replacing it with Career Development.)**

399280 Career Development
1 Semester Grade Levels: 7 or 8 (8th grade recommended) (NO CREDIT)

This CTE foundation course is a one or two semester class for grades 7-8 designed to teach career development through research and understanding of self and the world of work for college and career readiness. Career research and decision-making with education and training plans for exploration and development will be core standards. Students will be knowledgeable of career options, and the personal skills, aptitudes, and employer expectations of future careers of choice. Students will identify personal traits and characteristics for a better understanding of self in their pursuit of finding a meaningful, fulfilling and rewarding career. Through better recognition and understanding of personal interests, values, aptitudes and abilities students can assess how they relate to the world of work in order to acquire the skills necessary for appropriate placement in the workforce. In addition, students will demonstrate the use of technology to gather information about careers and demonstrate an understanding of the ways in which work, family, and leisure roles are interrelated. Students shall develop a career focus with viable expectations for success based upon careful research, consistent planning and employment preparation.

Operational Guide for Agricultural Science and Technology Education

CAREER CLUSTER: AGRICULTURE, FOOD, & NATURAL RESOURCES	
PATHWAY	PROGRAM OF STUDY
Agribusiness Systems	Agribusiness Systems
Agricultural Power, Structural, & Technical Systems	Agricultural Power, Structural, & Technical Systems
Animal Systems	Animal Systems
Food Products & Processing Systems	Food Products & Processing Systems
	Meats Processing Systems
Natural Resources/Environmental Service Systems	Natural Resources/Environmental Service Systems
Plant Systems	Plant Systems

Program Description

Agricultural science and technology education is an organized educational program designed to provide career exploration and technical preparation for students who are preparing for career success in the Agriculture, Food, and Natural Resources Career Cluster. The knowledge and performance skills required for successful achievements and/or advancement in agricultural occupations constitute the central focus of the program. This program seeks to broaden traditional agricultural education to include agricultural literacy, reinforcement of applied instruction, agricultural business and industry needs, and increase preparation for further education.

Each teacher unit shall offer a minimum of four (3) semester courses per year from the selected programs of studies other than the Power, Structure, Technical (Ag Mechanics) Program of Study. Each program shall offer at least two Programs of study.

Career and Technical Student Organization (CTSO)

The career and technical student organization (CTSO), FFA, shall be an integral part of the agriculture education instructional program and shall follow the applicable guidelines, goals, objectives, and participate in activities of the state and National FFA Organization.

All students enrolled are encouraged to become members of the FFA and take advantage of the leadership, citizenship, and personal development training and experience offered through participation in the FFA program. Each approved program of Agricultural Education shall have an active FFA Chapter that provides leadership development opportunities for all its members.

Agricultural Education teachers shall serve as FFA Chapter Advisors. In multiple-teacher departments, each teacher shall share the FFA Chapter responsibilities.

For more information about the Arkansas FFA Association, go to www.arkansasffa.org. Information about the National FFA Organization can be accessed at www.ffa.org.

AGRICULTURE PREREQUISITES	
COURSES	PREREQUISITE COURSE(S)
All courses/pathways (except Survey of Agricultural Systems and Intro to World Ag)	Survey of Agricultural Systems or CASE: AFNR

Agriculture Middle School Course:

Course Code	ARCareerEd Middle School Electives	Credit	7 th	8 th	9 th	10 th	11 th	12 th
399030	Intro to World Agriculture Science	0	X	X				

This course may be taken in both 7th and 8th grades, but must receive prior approval from ARCareerEd Agricultural Science Education

PATHWAY		PROGRAM OF STUDY						
Agribusiness Systems		Agribusiness Systems						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
491150	Survey of Agricultural Systems	1			X	X	X	X
or								
491140	CASE: AFNR	1			X	X	X	X
+								
491030	Agribusiness Management	1				X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12th
491010	Advanced Animal Science	.5				X	X	X
491020	Agricultural Apprenticeship/Work-Based Learning	1					X	X
491610	Agricultural Technology	1					X	X
491040	Agricultural Electricity	.5				X	X	X
491390	Agricultural Mechanics	1				X	X	X
491380	Agricultural Metals	1				X	X	X
491400	Agricultural Power Systems	1				X	X	X
491410	Agricultural Structural Systems	1				X	X	X
491500	Agronomy	.5					X	X
491180	Animal Science	1				X	X	X
491190	Aquaculture	.5				X	X	X
491630	CASE: Agricultural Power and Technology	1					X	X
491490	CASE: Animal and Plant Biotechnology	1				X	X	X
491480	CASE: Food Science and Safety	1				X	X	X
491470	CASE: Natural Resources and Ecology	1				X	X	X
491160	CASE: Principles of Agricultural Science – Animal	1				X	X	X
491170	CASE: Principles of Agricultural Science – Plant	1				X	X	X
491430	Beef Science	.5					X	X
491420	Equine Science	.5					X	X
491240	Floriculture	.5				X	X	X
491250	Food Science Technology	.5				X	X	X
491260	Forestry	.5				X	X	X
491620	Forestry Equipment Operations	.5					X	X
491270	Greenhouse Management	.5				X	X	X
491300	Leadership & Communications	.5				X	X	X
491310	Natural Resources Management	1				X	X	X
491330	Nursery/Landscape	.5				X	X	X
491340	Plant Science	1				X	X	X
491440	Poultry Science	.5					X	X
491510	Precision Agriculture	.5					X	X
491450	Small Animal Science	.5					X	X
491350	Small Engine Technology	.5				X	X	X
491360	Turf Grass Management	.5				X	X	X
491130	Vegetable & Fruit Production	.5				X	X	X
491460	Veterinary Science	1					X	X
Non-Agriculture Courses								
492070	Business Law I	.5			X	X	X	X
492080	Business Law II	.5			X	X	X	X
492100	Computerized Accounting I	1			X	X	X	X
492170	Entrepreneurship	1			X	X	X	X
492320	Management	1			X	X	X	X
492330	Marketing	1			X	X	X	X
493860	Internship	1					X	X

PATHWAY		PROGRAM OF STUDY						
Agricultural Power, Structural, & Technical Systems		Agricultural Power, Structural, & Technical Systems						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
491150	Survey of Agricultural Systems	1			X	X	X	X
or								
491140	CASE: AFNR	1			X	X	X	X
+								
491390	Agricultural Mechanics	1				X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12th
491010	Advanced Animal Science	.5				X	X	X
491020	Agricultural Apprenticeship/Work-Based Learning	1					X	X
491030	Agribusiness Management	1				X	X	X
491610	Agricultural Technology	1					X	X
491040	Agricultural Electricity	.5				X	X	X
491380	Agricultural Metals	1				X	X	X
491400	Agricultural Power Systems	1				X	X	X
491410	Agricultural Structural Systems	1				X	X	X
491500	Agronomy	.5					X	X
491180	Animal Science	1				X	X	X
491190	Aquaculture	.5				X	X	X
491430	Beef Science	.5					X	X
491630	CASE: Agricultural Power and Technology	1					X	X
491490	CASE: Animal and Plant Biotechnology	1				X	X	X
491480	CASE: Food Science and Safety	1				X	X	X
491470	CASE: Natural Resources and Ecology	1				X	X	X
491160	CASE: Principles of Agricultural Science – Animal	1				X	X	X
491170	CASE: Principles of Agricultural Science – Plant	1				X	X	X
491420	Equine Science	.5					X	X
491240	Floriculture	.5				X	X	X
491250	Food Science Technology	.5				X	X	X
491260	Forestry	.5				X	X	X
491620	Forestry Equipment Operations	.5					X	X
491270	Greenhouse Management	.5				X	X	X
491300	Leadership & Communications	.5				X	X	X
491310	Natural Resources Management	1				X	X	X
491330	Nursery/Landscape	.5				X	X	X
491340	Plant Science	1				X	X	X
491440	Poultry Science	.5					X	X
491510	Precision Agriculture	.5					X	X
491450	Small Animal Science	.5					X	X
491350	Small Engine Technology	.5				X	X	X
491360	Turf Grass Management	.5				X	X	X
491130	Vegetable & Fruit Production	.5				X	X	X
491460	Veterinary Science	1					X	X
Non-Agriculture Courses								
494710	Architecture/CADD I	1			X	X	X	X
494700	Drafting and Design	1			X	X	X	X
495480	Introduction to Engineering Design (IED)	1			X	X	X	X
495490	Principles of Engineering (POE)	1			X	X	X	X
495550	Gas Metal Arc Welding	1			X	X	X	X
495560	Gas Tungsten Arc Welding	1			X	X	X	X
494940	Introduction to Manufacturing	1			X	X	X	X
494480	Introduction to Skilled Trades	1			X	X	X	X
493840	Mechanical, Plumbing and Electrical Systems	1					X	X
494510	Plumbing	1				X	X	X
495580	Shielded Metal Arc Welding	1			X	X	X	X
495150	Industrial Technologies	1			X	X	X	X
493860	Internship	1					X	X
495570	Metal Fabrication	1			X	X	X	X

See page 3 of this document	UAS Level One	1			X	X	X	X
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PATHWAY		PROGRAM OF STUDY						
Animal Systems		Animal Systems						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
491150	Survey of Agricultural Systems	1			X	X	X	X
or								
491140	CASE: AFNR	1			X	X	X	X
+								
491180	Animal Science	1				X	X	X
or								
491160	CASE: Principles of Agricultural Science – Animal	1				X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12th
491010	Advanced Animal Science	.5				X	X	X
491020	Agricultural Apprenticeship/Work-Based Learning	1					X	X
491030	Agribusiness Management	1				X	X	X
491610	Agricultural Technology	1					X	X
491040	Agricultural Electricity	.5				X	X	X
491390	Agricultural Mechanics	1				X	X	X
491380	Agricultural Metals	1				X	X	X
491400	Agricultural Power Systems	1				X	X	X
491410	Agricultural Structural Systems	1				X	X	X
491500	Agronomy	.5					X	X
491190	Aquaculture	.5				X	X	X
491430	Beef Science	.5					X	X
491630	CASE: Agricultural Power and Technology	1					X	X
491490	CASE: Animal and Plant Biotechnology	1				X	X	X
491480	CASE: Food Science and Safety	1				X	X	X
491470	CASE: Natural Resources and Ecology	1				X	X	X
491170	CASE: Principles of Agricultural Science – Plant	1				X	X	X
491420	Equine Science	.5					X	X
491240	Floriculture	.5				X	X	X
491250	Food Science Technology	.5				X	X	X
491260	Forestry	.5				X	X	X
491620	Forestry Equipment Operations	.5					X	X
491270	Greenhouse Management	.5				X	X	X
491300	Leadership & Communications	.5				X	X	X
491310	Natural Resources Management	1				X	X	X
491330	Nursery/Landscape	.5				X	X	X
491340	Plant Science	1				X	X	X
491440	Poultry Science	.5					X	X
491510	Precision Agriculture	.5					X	X
491450	Small Animal Science	.5					X	X
491350	Small Engine Technology	.5				X	X	X
491360	Turf Grass Management	.5				X	X	X
491130	Vegetable & Fruit Production	.5				X	X	X
491460	Veterinary Science	1					X	X

Non-Agriculture Courses								
495300	Human Anatomy and Physiology	1				X	X	X
493860	Internship	1					X	X
494710	Architecture/CADD I	1			X	X	X	X
494700	Drafting and Design	1			X	X	X	X
495480	Introduction to Engineering Design (IED)	1			X	X	X	X
495490	Principles of Engineering (POE)	1			X	X	X	X
495550	Gas Metal Arc Welding	1			X	X	X	X
495560	Gas Tungsten Arc Welding	1			X	X	X	X
494940	Introduction to Manufacturing	1			X	X	X	X
494480	Introduction to Skilled Trades	1			X	X	X	X
493840	Mechanical, Plumbing and Electrical Systems	1					X	X
494510	Plumbing	1				X	X	X
495580	Shielded Metal Arc Welding	1			X	X	X	X
495150	Industrial Technologies	1			X	X	X	X
495570	Metal Fabrication	1			X	X	X	X
See page 3 of this document	UAS Level One	1			X	X	X	X

PATHWAY		PROGRAM OF STUDY						
Food Products and Processing Systems		Food Products and Processing Systems						
(ARCareerEd approval is necessary before implementing the courses in this pathway.)								
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
491150	Survey of Agricultural Systems	1			X	X	X	X
or								
491140	CASE: AFNR	1			X	X	X	X
+								
491100	Food Products and Processing I	1				X	X	X
or								
491480	CASE: Food Science and Safety	1				X	X	X
+ all credits of the following:								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12th
491110	Food Products and Processing II	1					X	X
491120	Food Products and Processing Capstone	1						X

PATHWAY		PROGRAM OF STUDY						
Food Products and Processing Systems		Meat Processing Systems						
(ARCareerEd approval is necessary before implementing the courses in this pathway.)								
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
491150	Survey of Agricultural Systems	1			X	X	X	X
or								
491140	CASE: AFNR	1			X	X	X	X
+								
491320	Meat Processing I	1				X	X	X
+ all credits of the following								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12th
491070	Meat Processing II	1					X	X
491080	Meat Processing Capstone	1						X

PATHWAY		PROGRAM OF STUDY							
Natural Resources/Environmental Service Systems		Natural Resources/Environmental Service Systems							
Natural Resource Systems/Environmental Service Systems									
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th	
491150	Survey of Agricultural Systems	1			X	X	X	X	
or									
491140	CASE: AFNR	1			X	X	X	X	
+									
491310	Natural Resources Management	1				X	X	X	
or									
491470	CASE: Natural Resources and Ecology	1				X	X	X	
+ one full credit from the list below									
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12th	
491010	Advanced Animal Science	.5				X	X	X	
491020	Agricultural Apprenticeship/Work-Based Learning	1					X	X	
491030	Agribusiness Management	1				X	X	X	
491610	Agricultural Technology	1					X	X	
491040	Agricultural Electricity	.5				X	X	X	
491390	Agricultural Mechanics	1				X	X	X	
491380	Agricultural Metals	1				X	X	X	
491400	Agricultural Power Systems	1				X	X	X	
491410	Agricultural Structural Systems	1				X	X	X	
491500	Agronomy	.5					X	X	
491180	Animal Science	1				X	X	X	
491190	Aquaculture	.5				X	X	X	
491430	Beef Science	.5					X	X	
491630	CASE: Agricultural Power and Technology	1					X	X	
491490	CASE: Animal and Plant Biotechnology	1				X	X	X	
491480	CASE: Food Science and Safety	1				X	X	X	
491160	CASE: Principles of Agricultural Science – Animal	1				X	X	X	
491170	CASE: Principles of Agricultural Science – Plant	1				X	X	X	
491420	Equine Science	.5					X	X	
491240	Floriculture	.5				X	X	X	
491250	Food Science Technology	.5				X	X	X	
491260	Forestry	.5				X	X	X	
491620	Forestry Equipment Operations	.5					X	X	
491270	Greenhouse Management	.5				X	X	X	
491300	Leadership & Communications	.5				X	X	X	
491330	Nursery/Landscape	.5				X	X	X	
491340	Plant Science	1				X	X	X	
491440	Poultry Science	.5					X	X	
491510	Precision Agriculture	.5					X	X	
491450	Small Animal Science	.5					X	X	
491350	Small Engine Technology	.5				X	X	X	
491360	Turf Grass Management	.5				X	X	X	
491130	Vegetable & Fruit Production	.5				X	X	X	
491460	Veterinary Science	1					X	X	
Non-Agriculture Courses									

See page 3 of this document	UAS Level One	1			X	X	X	X
493860	Internship	1					X	X

PATHWAY		PROGRAM OF STUDY						
Plant Systems		Plant Systems						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
491150	Survey of Agricultural Systems	1			X	X	X	X
or								
491140	CASE: AFNR	1			X	X	X	X
+								
491340	Plant Science	1				X	X	X
or								
491170	CASE: Principles of Agricultural Science–Plant Science	1				X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12th
491010	Advanced Animal Science	.5				X	X	X
491020	Agricultural Apprenticeship/Work-Based Learning	1					X	X
491030	Agribusiness Management	1				X	X	X
491610	Agricultural Technology	1					X	X
491040	Agricultural Electricity	.5				X	X	X
491390	Agricultural Mechanics	1				X	X	X
491380	Agricultural Metals	1				X	X	X
491400	Agricultural Power Systems	1				X	X	X
491410	Agricultural Structural Systems	1				X	X	X
491500	Agronomy	.5					X	X
491180	Animal Science	1				X	X	X
491190	Aquaculture	.5				X	X	X
491430	Beef Science	.5					X	X
491630	CASE: Agricultural Power and Technology	1					X	X
491490	CASE: Animal and Plant Biotechnology	1				X	X	X
491480	CASE: Food Science and Safety	1				X	X	X
491470	CASE: Natural Resources and Ecology	1				X	X	X
491160	CASE: Principles of Agricultural Science – Animal	1				X	X	X
491420	Equine Science	.5					X	X
491240	Floriculture	.5				X	X	X
491250	Food Science Technology	.5				X	X	X
491260	Forestry	.5				X	X	X
491620	Forestry Equipment Operations	.5					X	X
491270	Greenhouse Management	.5				X	X	X
491300	Leadership & Communications	.5				X	X	X
491310	Natural Resources Management	1				X	X	X
491330	Nursery/Landscape	.5				X	X	X
491440	Poultry Science	.5					X	X
491510	Precision Agriculture	.5					X	X
491450	Small Animal Science	.5					X	X
491350	Small Engine Technology	.5				X	X	X
491360	Turf Grass Management	.5				X	X	X
491130	Vegetable & Fruit Production	.5				X	X	X

491460	Veterinary Science	1					X	X
Non-Agriculture Courses								
See page 3 of this document	UAS Level One	1			X	X	X	X
493860	Internship	1					X	X

Course Descriptions (Alphabetically):

CLUSTER: AGRICULTURE, FOOD, & NATURAL RESOURCES (all pathways)

Middle School Course

399030 Intro to World Agriculture Science

Credit: 0 Grade Levels: 7-8

This is a foundation course for agriculture courses. Basic agriculture concepts are introduced, and students explore careers in the agriculture industry. Students will also be introduced to the FFA, leadership, and Supervised Agricultural Experiences. **(This course may be taken in both 7th and 8th grades, but must receive prior approval from ARCareerEd Agricultural Science Education)**

High School Courses

491010 Advanced Animal Science

Credit: .5 Grade Levels: 10-12

This course is designed at the local level for specialized instruction as determined by the local advisory committee and administration in a specific area of animal science. Pre-requisites would be animal science.

491020 Agricultural Apprenticeship/Work-Based Learning

Credit: 1 Grade Levels: 11-12

This course provides for the work-based component of a supervised agriculture experience program with an agriculture employer. It provides the experiential learning concepts that are needed for successful employment.

491030 Agribusiness Management

Credit: 1 Grade Levels: 10-12

This course provides students with a basis for making effective decisions, setting goals, assessing and solving problems, evaluating the management of resources, and gaining skills useful in everyday life. FFA and SAEs will be covered as well.

491610 Agricultural Technology

Credit: 1 Grade Levels: 11-12

Students will cover agricultural CNC terms, careers, systems, features and troubleshooting. They will develop industry partnerships to meet specific needs in agricultural settings with CNC technology.

491040 Agricultural Electricity

Credit: .5 Grade Levels: 10-12

Students will cover electrical terms, careers, sources, tools, and practical wiring. Students will learn to read plans and wire according to plan. They will use hands-on activities and safety will be stressed.

491390 Agricultural Mechanics

Credit: 1 Grade Levels: 10-12

This course connects scientific principles with mechanical skills. This course will enhance the student's understanding of traditional areas of agriculture mechanics and will emphasize agricultural technology, including such topics as electricity, internal combustion engines, metal technology, construction, and the development, role, and scope of mechanical technology in agriculture.

491380 Agricultural Metals**Credit: 1 Grade Levels: 10-12**

This course covers safety, technical information, tool fitting, sheet metal, hot and cold metal work, as well as an introduction to oxy acetylene welding and cutting and arc welding. It will also cover cold metal, hot metal, fabrication concepts, reading and implementing blueprints as they relate to metal work, arc welding, gas welding, MIG welding, TIG welding, plasma cutting, and careers related to metal work. Safety practices and performance skills will be emphasized in each area.

491400 Agricultural Power Systems**Credit: 1 Grade Levels: 10-12**

This course covers the basic principles of agricultural power (electrical and internal combustion), maintenance and repair of equipment, career opportunities, and safety. It will focus on the technical areas of maintenance and repair of small engines, control and installation of electrical power, electronics, and repair and maintenance of agricultural machinery.

491410 Agricultural Structural Systems**Credit: 1 Grade Levels: 10-12**

Students will be introduced to basic practices used in farm building and construction of facilities for the farm. A more in-depth look will be given to the technical areas of the agriculture structural industry. Topics will include FFA, SAEs, safety, planning, tools, basic construction, surveying, concrete and masonry structures, basic carpentry, plumbing, electricity, metal fabrication, and painting and finishing.

491500 Agronomy**Credit: .5 Grade Levels: 11-12**

This course allows for an in-depth look at the Agronomy Industry while providing hands on laboratories and opportunities.

491180 Animal Science**Credit: 1 Grade Levels: 10-12**

The course is structured to enable all students to have an overview of the Animal Industry. Topics covered in Animal Science include the Animal Industry, Animal Handling and Safety, Animal Anatomy/Physiology, and Animal Nutrition. Opportunities are provided for students to participate in FFA and supervised experience activities.

491190 Aquaculture**Credit: .5 Grade Levels: 10-12**

This course is the science of water farming. It includes the production and marketing of aquatic animals and plants.

491430 Beef Science**Credit: .5 Grade Levels: 11-12**

This course is designed to provide an advanced study in the science and application of beef production.

491630 Curriculum for Agricultural Science Education (CASE): Agricultural Power and Technology**Credit: 1 Grade Levels: 11-12**

This is a specialization course in the CASE Program of Study, preparing students for the wide array of career opportunities in agricultural engineering. Students are immersed in inquiry-based exercises that tie in the math and science of agricultural mechanics and engineering including shop safety, tool operation, materials selection & use, fabrication, energy & power, machines, machinery management, engineering and technology applications.

(Must have ARCareerEd-approval prior to implementation)

491490 Curriculum for Agricultural Science Education (CASE): Animal and Plant Biotechnology**Credit: 1 Grade Levels: 10-12**

This is a specialization course in the CASE Program of Study, provides students with experiences in industry appropriate applications of biotechnology related to plant and animal agriculture. Students will complete hands-on activities, projects, and problems designed to build content knowledge and technical skills in the field of biotechnology.

(Must have ARCareerEd-approval prior to implementation)

491480 Curriculum for Agricultural Science Education (CASE): Food Science and Safety**Credit: 1 Grade Levels: 10-12**

This is a specialization course in the CASE Program of Study. Students will complete hands-on activities, projects, and problems that simulate actual concepts and situations found in the food science and safety industry, allowing students to build content knowledge and technical skills. Students will investigate areas of food science including food safety, food chemistry, food processing, food product development, and marketing.

(Must have ARCareerEd-approval prior to implementation)

491470 Curriculum for Agricultural Science Education (CASE): Natural Resources and Ecology

Credit: 1 Grade Levels: 10-12

This course is a foundation course within the CASE sequence of courses. The course provides students a variety of experiences that in the fields of natural resources and ecology.

(Must have ARCareerEd-approval prior to implementation)

491140 Curriculum for Agricultural Science Education (CASE): Introduction to Agriculture, Food, and Natural Resources (AFNR)

Credit: 1 Grade Levels: 9-12

This course introduces students to the range of agricultural opportunities and the pathways of study they may pursue. Science, mathematics, reading, and writing components are woven in the context of agriculture and students will use the introductory skills and knowledge developed in this course throughout the CASE™ curriculum.

(Must have ARCareerEd-approval prior to implementation)

491160 Curriculum for Agricultural Science Education (CASE): Principles of Agricultural Science—Animal

Credit: 1 Grade Levels: 10-12

This is a foundation-level course designed to engage students in hands-on laboratories and activities to explore the world of animal agriculture.

(Must have ARCareerEd-approval prior to implementation)

491170 Curriculum for Agricultural Science Education (CASE): Principles of Agricultural Science—Plant

Credit: 1 Grade Levels: 10-12

This is a foundation-level course that will teach students about the form and function of plant systems. Students are immersed in inquiry-based exercises filled with activities, projects, and problems to teach them plant concepts through laboratory and practical experiences. Student experiences will include the study of plant anatomy and physiology, classification, and the fundamentals of production and harvesting.

(Must have ARCareerEd-approval prior to implementation)

491420 Equine Science

Credit: .5 Grade Levels: 11-12

Equine Science will introduce students to a broad spectrum of topics in Equine Science and establish a solid foundation of general horse knowledge. The course will begin with discussions of the development, domestication, and use of the horse; as well as the economic impact and future trends of the horse industry.

491240 Floriculture

Credit: .5 Grade Levels: 10-12

This course covers the principles of design, merchandising, careers, selection, storage, supplies, management practices, ownership, and employment in the floriculture industry.

491100 Food Products and Processing I

Credit: 1 Grade Levels: 10-12

This course examines the food industry in production, manufacturing/processing, distribution, and marketing. It also explores careers, consumer consumption, food safety, global commodities, and food companies.

(Must have ARCareerEd-approval prior to implementation)

491110 Food Products and Processing II

Credit: 1 Grade Levels: 11-12

This course examines the food industry in production, manufacturing/processing, distribution, and marketing. It also explores careers, consumer consumption, food safety, global commodities, and food companies.

(Must have ARCareerEd-approval prior to implementation)

491120 Food Products and Processing Capstone

Credit: 1 Grade Levels: 12

This course examines the food industry in production, manufacturing/processing, distribution, and marketing. It also explores careers, consumer consumption, food safety, global commodities, and food companies.

(Must have ARCareerEd-approval prior to implementation)

491250 Food Science Technology

Credit: .5 Grade Levels: 10-12

This course examines the food industry in production, manufacturing/processing, distribution, and marketing. It also explores careers, consumer consumption, food safety, global commodities, and food companies.

491260 Forestry**Credit: .5 Grade Levels: 10-12**

This course provides an overview of the forest industry and its importance to the economy of the nation. Tree identification, management practices, harvesting and marketing processes, and business applications are major topics. GPS and GIS are included.

491620 Forestry Equipment Operations**Credit: .5 Grade Levels: 11-12**

The Forestry Equipment Operations course covers basic operations, safety, maintenance, service and technologies of forestry equipment. It also covers careers and opportunities in the forest industry.

491270 Greenhouse Management**Credit: .5 Grade Levels: 10-12**

This course covers greenhouse management practices, including structural considerations, plant propagation, pesticide use, and product marketing. The student will also receive ample hands-on practice.

491300 Leadership & Communications**Credit: .5 Grade Levels: 10-12**

Public speaking, parliamentary procedure, organization, delegation, oral communication, conflict resolution, business etiquette, and community service are major topics to assist students in development of their leadership skills for the future.

491310 Natural Resources Management**Credit: 1 Grade Levels: 10-12**

Students will explore natural resources (soil, water, air, forests, energy, minerals and metals, and wildlife) and develop the knowledge and skills to use them wisely. Other issues include outdoor recreation, careers, and the environment.

491320 Meat Processing I**Credit: 1 Grade Levels: 10-12**

This laboratory-specific course is designed to develop skill in the slaughter and processing of animals. The course emphasizes safety, sanitation, equipment care and maintenance, slaughter procedures, wholesale and retail meat fabrication, meat quality including quality and yield grade, preparation, and merchandising trends. Instruction will include career opportunities, leadership activities, aspects of HASSIP, and other practices related to the meat-packing industry.

(Must have ARCareerEd-approval prior to implementation)

491070 Meat Processing II**Credit: 1 Grade Levels: 11-12**

This laboratory-specific course is designed to develop skill in the slaughter and processing of animals. The course emphasizes safety, sanitation, equipment care and maintenance, slaughter procedures, wholesale and retail meat fabrication, meat quality including quality and yield grade, preparation, and merchandising trends. Instruction will include career opportunities, leadership activities, aspects of HASSIP, and other practices related to the meat-packing industry.

(Must have ARCareerEd-approval prior to implementation)

491080 Meat Processing Capstone**Credit: 1 Grade Levels: 12**

This laboratory-specific course is designed to develop skill in the slaughter and processing of animals. The course emphasizes safety, sanitation, equipment care and maintenance, slaughter procedures, wholesale and retail meat fabrication, meat quality including quality and yield grade, preparation, and merchandising trends. Instruction will include career opportunities, leadership activities, aspects of HASSIP, and other practices related to the meat-packing industry.

(Must have ARCareerEd-approval prior to implementation)

491330 Nursery/Landscape**Credit: .5 Grade Levels: 10-12**

This course covers the production of plants, shrubs, and ornamental trees for transplanting to landscape designs. Propagation, designing plans, installation, maintenance, transportation, and careers are included in the curriculum.

491340 Plant Science**Credit: 1 Grade Levels: 10-12**

This course covers the relationship between plants and people, plant morphology and physiology, plant production, the environment, soil, and other related areas.

491440 Poultry Science**Credit: .5 Grade Levels: 11-12**

This course focuses on the production and management of poultry and the production and handling of poultry products.

491510 Precision Agriculture**Credit: .5 Grade Levels: 11-12**

This course covers the basic principles of precision agriculture including physical science and engineering principles, along with controlling, monitoring, geospatial and other technologies in Agriculture, Food and Natural Resource settings.

491450 Small Animal Science**Credit: .5 Grade Levels: 11-12**

This course is designed to provide students with skills and concepts involved with the care and management of companion animals.

491350 Small Engine Technology**Credit: .5 Grade Levels: 10-12**

This course examines the uses of small engines in all areas of agriculture. Selection, maintenance and repair, careers, and employability are major topics.

491150 Survey of Agricultural Systems**Credit: 1 Grade Levels: 9-12**

This is a foundation course for all agriculture programs of study. Topics covered include general agriculture, FFA, leadership, record keeping, Supervised Agricultural Experiences (SAEs), animal science, plant science, soil science, and agricultural mechanics.

491360 Turf Grass Management**Credit: .5 Grade Levels: 10-12**

This course covers all aspects of turf grass management, including lawn care, turf production, golf course management, sports turf, irrigation, equipment, maintenance, and human relations.

491130 Vegetable & Fruit Production**Credit: .5 Grade Levels: 11-12**

This course allows for an in-depth look at the Vegetable and Fruit Industry while providing hands on laboratories and opportunities.

491460 Veterinary Science**Credit: 1 Grade Levels: 11-12**

This course will provide the student with a sound platform to master the knowledge and skills necessary to become a veterinary assistant. It will also prepare the student to pursue a rewarding career as part of the professional veterinarian team. It will also equip the next generation of veterinarians and veterinarian assistants with the new technological tools that reinforce our industry's expectations. Finally, it provides academic knowledge, higher order reasoning and problem solving skills, work attitudes, general employability skills, technical skills and occupational skills.

Operational Guide

Business and Marketing Technology

CAREER CLUSTER: BUSINESS MANAGEMENT AND ADMINISTRATION	
PATHWAY	PROGRAM OF STUDY
Administrative Services	Medical Office Administration
	Office Administration
General Management	Management

CAREER CLUSTER: FINANCE	
PATHWAY	PROGRAM OF STUDY
Accounting	Accounting
Banking Services	Banking
Securities and Investments	Securities and Investments

CAREER CLUSTER: HOSPITALITY AND TOURISM	
PATHWAY	PROGRAM OF STUDY
Travel and Tourism	Hospitality and Tourism

CAREER CLUSTER: INFORMATION TECHNOLOGY	
PATHWAY	PROGRAM OF STUDY
Web Design and Digital Communications	Social Media and Communications
	Web Design

CAREER CLUSTER: MARKETING SALES AND SERVICE	
PATHWAY	PROGRAM OF STUDY
Marketing Management	Entrepreneurship
Marketing Research	Marketing

CAREER CLUSTER: TRANSPORTATION, DISTRIBUTION AND LOGISTICS	
PATHWAY	PROGRAM OF STUDY
Logistics Planning and Management Services	Supply Chain and Logistics

Program Description

Business and Marketing Technology programs are designed to prepare individuals to:

- Perform managerial functions
- Make educated financial decisions
- Apply business and marketing principles in order to provide goods and services
- Utilize technology to communicate effectively

Career and Technical Student Organization (CTSO)

[Future Business Leaders of America](#) (FBLA) or [DECA](#) shall be an integral part of the Business and Marketing Technology instructional program and shall follow the guidelines, goals, objectives, and shall participate in activities of the state and national organization.

Work Programs

While not mandatory, many students can benefit from on-the-job training provided through the following work programs:

- Marketing Apprenticeship/Work-Based Learning is only available for 11th and 12th grade students who are concurrently taking Marketing, Marketing Management, or Entrepreneurship.
- Office Education Work-Based Learning is only available for 11th and 12th grade students who are concurrently taking Management, Medical Office Management, or Business Procedures.

****These courses are not eligible for the employer tax credit.****

For off campus paid work based programs, coordinators will be assigned:

- a. one supervision period for 1-25 students
- b. two supervision periods for 26-50 students
- c. three supervision periods for 51 or more students

****See ARCareerEd Policies and Procedures for more information on work programs.****

****Please note that these work programs will require specific documentation to be submitted to ARCareerEd. Information can be found in the Resource Documents folder at the following link:**

<https://www.dropbox.com/sh/owy2cjz0w65yygq/AADNXhrQQf-RBytQLOEctaha?dl=0> **

Pathways and Programs of Study by Career Cluster

Business Management and Administration Cluster

This cluster allows students to acquire skills related to planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations.

PATHWAY		PROGRAM OF STUDY				
Administrative Services		Medical Office Administration				
Course Code	Core Course	Credit	9th	10th	11th	12th
492120	Computerized Business Applications	1	X	X	X	X
or						
460100	Technology Design and Applications	1	X	X	X	X
+						
492690	Medical Office Management	1	X	X	X	X
+ one full credit from the list below						
Course Code	Elective Course	Credit	9th	10th	11th	12th
492140	Advanced Database Applications	.5	X	X	X	X
492450	Advanced Spreadsheet Applications	.5	X	X	X	X
492060	Business Communications	.5	X	X	X	X
492070	Business Law I	.5	X	X	X	X
492080	Business Law II	.5	X	X	X	X
492100	Computerized Accounting I	1	X	X	X	X
492170	Entrepreneurship	1	X	X	X	X
491990	Financial Literacy	.5		X	X	X
492290	Financial Planning and Wealth Management	1.5		X	X	X
492330	Marketing	1	X	X	X	X
492730	Noble 101	1	X	X	X	X
492740	Noble 201	1		X	X	X
492750	Noble 301	1			X	X
492620	Office Education Work-Based Learning	1			X	X
492780	Organizational Leadership I	.5		X	X	X
492790	Organizational Leadership II	.5		X	X	X
492000	Securities, Investments, Risk, and Insurance	1	X	X	X	X
Non-Business and Marketing Courses						
424030	Anatomy and Physiology	1	X	X	X	X
474400	Psychology	.5	X	X	X	X
493320	Customer Relations	1		X	X	X
494050	Foundations of Sports Medicine	1	X	X	X	X
495280	Pharmacy Technology Fundamentals	1	X	X	X	X
495300	Human Anatomy and Physiology	1	X	X	X	X
495320	Human Behavior and Disorders	.5	X	X	X	X
495340	Introduction to Medical Professions	.5	X	X	X	X
495350	Foundations of Health Care	1	X	X	X	X
495360	Medical Terminology	.5	X	X	X	X
495370	Abnormal Psychology	.5	X	X	X	X
579120	AP Psychology	1	X	X	X	X
493860	Internship	1			X	X

PATHWAY		PROGRAM OF STUDY				
Administrative Services		Office Administration				
Course Code	Core Course	Credit	9th	10th	11th	12th
492120	Computerized Business Applications	1	X	X	X	X
or						
460100	Technology Design and Applications	1	X	X	X	X
+						
492380	Business Procedures	1	X	X	X	X
+ one full credit from the list below						
Course Code	Elective Course	Credit	9th	10th	11th	12th
492140	Advanced Database Applications	.5	X	X	X	X
492450	Advanced Spreadsheet Applications	.5	X	X	X	X
492060	Business Communications	.5	X	X	X	X
492070	Business Law I	.5	X	X	X	X
492080	Business Law II	.5	X	X	X	X
492100	Computerized Accounting I	1	X	X	X	X
492170	Entrepreneurship	1	X	X	X	X
491990	Financial Literacy	.5		X	X	X
492290	Financial Planning and Wealth Management	1.5		X	X	X
492330	Marketing	1	X	X	X	X
492730	Noble 101	1	X	X	X	X
492740	Noble 201	1		X	X	X
492750	Noble 301	1			X	X
492620	Office Education Work-Based Learning	1			X	X
492780	Organizational Leadership I	.5		X	X	X
492790	Organizational Leadership II	.5		X	X	X
492000	Securities, Investments, Risk, and Insurance	1	X	X	X	X
492760	Social Media and Communications	1	X	X	X	X
Non-Business and Marketing Courses						
491030	Agribusiness Management	1		X	X	X
493320	Customer Relations	1		X	X	X
493860	Internship	1			X	X

PATHWAY		PROGRAM OF STUDY				
General Management		Management				
Course Code	Core Course	Credit	9th	10th	11th	12th
492120	Computerized Business Applications	1	X	X	X	X
or						
460100	Technology Design and Applications	1	X	X	X	X
+						
492320	Management	1	X	X	X	X
+ one full credit from the list below						
Course Code	Elective Course	Credit	9th	10th	11th	12th
492140	Advanced Database Applications	.5	X	X	X	X
492450	Advanced Spreadsheet Applications	.5	X	X	X	X
492060	Business Communications	.5	X	X	X	X
492070	Business Law I	.5	X	X	X	X
492080	Business Law II	.5	X	X	X	X
492100	Computerized Accounting I	1	X	X	X	X
492170	Entrepreneurship	1	X	X	X	X
491990	Financial Literacy	.5		X	X	X
492290	Financial Planning and Wealth Management	1.5		X	X	X
492330	Marketing	1	X	X	X	X
492730	Noble 101	1	X	X	X	X
492740	Noble 201	1		X	X	X
492750	Noble 301	1			X	X
492620	Office Education Work-Based Learning	1			X	X
492780	Organizational Leadership I	.5		X	X	X
492790	Organizational Leadership II	.5		X	X	X
492000	Securities, Investments, Risk, and Insurance	1	X	X	X	X
492760	Social Media and Communications	1	X	X	X	X
Non-Business and Marketing Courses						
491030	Agribusiness Management	1		X	X	X
493320	Customer Relations	1		X	X	X
493860	Internship	1			X	X

Finance Cluster

This cluster allows students to acquire skills related to planning services for financial and investment planning, banking, insurance, and business financial management.

PATHWAY		PROGRAM OF STUDY				
Accounting		Accounting				
Course Code	Core Course	Credit	9th	10th	11th	12th
492120	Computerized Business Applications	1	X	X	X	X
or						
460100	Technology Design and Applications	1	X	X	X	X
+						
492100	Computerized Accounting I	1	X	X	X	X
+ one full credit from the list below						
Course Code	Elective Course	Credit	9th	10th	11th	12th
492140	Advanced Database Applications	.5	X	X	X	X
492450	Advanced Spreadsheet Applications	.5	X	X	X	X
492060	Business Communications	.5	X	X	X	X
492070	Business Law I	.5	X	X	X	X
492080	Business Law II	.5	X	X	X	X
492110	Computerized Accounting II	1		X	X	X
491990	Financial Literacy	.5		X	X	X
492290	Financial Planning and Wealth Management	1.5		X	X	X
492780	Organizational Leadership I	.5		X	X	X
492790	Organizational Leadership II	.5		X	X	X
Non-Business and Marketing Courses						
491030	Agribusiness Management	1		X	X	X
493860	Internship	1			X	X

PATHWAY		PROGRAM OF STUDY				
Banking Services		Banking				
Course Code	Core Course	Credit	9th	10th	11th	12th
492120	Computerized Business Applications	1	X	X	X	X
or						
460100	Technology Design and Applications	1	X	X	X	X
+						
492090	Principles of Banking	1	X	X	X	X
+ one full credit from the list below						
Course Code	Elective Course	Credit	9th	10th	11th	12th
492140	Advanced Database Applications	.5	X	X	X	X
492450	Advanced Spreadsheet Applications	.5	X	X	X	X
492060	Business Communications	.5	X	X	X	X
492070	Business Law I	.5	X	X	X	X
492080	Business Law II	.5	X	X	X	X
492100	Computerized Accounting I	1	X	X	X	X
491990	Financial Literacy	.5		X	X	X
492290	Financial Planning and Wealth Management	1.5		X	X	X
492730	Noble 101	1	X	X	X	X
492740	Noble 201	1		X	X	X
492750	Noble 301	1			X	X
492780	Organizational Leadership I	.5		X	X	X
492790	Organizational Leadership II	.5		X	X	X
492000	Securities, Investments, Risk, and Insurance	1	X	X	X	X
492760	Social Media and Communications	1	X	X	X	X
Non-Business and Marketing Courses						
491030	Agribusiness Management	1		X	X	X
493320	Customer Relations	1		X	X	X
493860	Internship	1			X	X

PATHWAY		PROGRAM OF STUDY				
Securities and Investments		Securities and Investments				
Course Code	Core Course	Credit	9th	10th	11th	12th
492120	Computerized Business Applications	1	X	X	X	X
or						
460100	Technology Design and Applications	1	X	X	X	X
+						
492000	Securities, Investments, Risk, and Insurance	1	X	X	X	X
+ one full credit from the list below						
Course Code	Elective Course	Credit	9th	10th	11th	12th
492140	Advanced Database Applications	.5	X	X	X	X
492450	Advanced Spreadsheet Applications	.5	X	X	X	X
492060	Business Communications	.5	X	X	X	X
492070	Business Law I	.5	X	X	X	X
492080	Business Law II	.5	X	X	X	X
492100	Computerized Accounting I	1	X	X	X	X
491990	Financial Literacy	.5		X	X	X
492290	Financial Planning and Wealth Management	1.5		X	X	X
492780	Organizational Leadership I	.5		X	X	X
492790	Organizational Leadership II	.5		X	X	X
492330	Marketing	1	X	X	X	X
492760	Social Media and Communications	1	X	X	X	X
Non-Business and Marketing Courses						
491030	Agribusiness Management	1		X	X	X
493320	Customer Relations	1		X	X	X
493860	Internship	1			X	X

Hospitality and Tourism Cluster

This cluster allows students to acquire skills related to planning, services for financial and investment planning, banking, insurance, and business financial management.

PATHWAY		PROGRAM OF STUDY				
Travel and Tourism		Hospitality and Tourism				
Course Code	Core Course	Credit	9th	10th	11th	12th
492120	Computerized Business Applications	1	X	X	X	X
or						
460100	Technology Design and Applications	1	X	X	X	X
+						
492260	Tourism Industry Management	1	X	X	X	X
+ one full credit from the list below						
Course Code	Elective Course	Credit	9th	10th	11th	12th
492140	Advanced Database Applications	.5	X	X	X	X
492450	Advanced Spreadsheet Applications	.5	X	X	X	X
492230	Arkansas Hospitality and Tourism	.5	X	X	X	X
492060	Business Communications	.5	X	X	X	X
492070	Business Law I	.5	X	X	X	X
492080	Business Law II	.5	X	X	X	X
492100	Computerized Accounting I	1	X	X	X	X
492170	Entrepreneurship	1	X	X	X	X
491990	Financial Literacy	.5		X	X	X
492290	Financial Planning and Wealth Management	1.5		X	X	X
492250	Hospitality Administration	.5	X	X	X	X
492330	Marketing	1	X	X	X	X
492730	Noble 101	1	X	X	X	X
492740	Noble 201	1		X	X	X
492750	Noble 301	1			X	X
492780	Organizational Leadership I	.5		X	X	X
492790	Organizational Leadership II	.5		X	X	X
492760	Social Media and Communications	1	X	X	X	X
Non-Business and Marketing Courses						
493320	Customer Relations	1		X	X	X
493860	Internship	1			X	X

Information Technology Cluster

This cluster allows students to acquire skills related to designing, developing, supporting and managing hardware, software, social media, multimedia, and systems integration services, in order to plan and develop the activities and skills needed to effectively communicate using technology.

PATHWAY		PROGRAM OF STUDY				
Web Design and Digital Communications		Social Media and Communications				
Course Code	Core Course	Credit	9th	10th	11th	12th
492120	Computerized Business Applications	1	X	X	X	X
or						
460100	Technology Design and Applications	1	X	X	X	X
+						
492760	Social Media and Communications	1	X	X	X	X
+ one full credit from the list below						
Course Code	Elective Course	Credit	9th	10th	11th	12th
492140	Advanced Database Applications	.5	X	X	X	X
492450	Advanced Spreadsheet Applications	.5	X	X	X	X
492060	Business Communications	.5	X	X	X	X
492070	Business Law I	.5	X	X	X	X
492080	Business Law II	.5	X	X	X	X
492100	Computerized Accounting I	1	X	X	X	X
492170	Entrepreneurship	1	X	X	X	X
491990	Financial Literacy	.5		X	X	X
492290	Financial Planning and Wealth Management	1.5		X	X	X
492320	Management	1	X	X	X	X
492330	Marketing	1	X	X	X	X
492690	Medical Office Management	1	X	X	X	X
492730	Noble 101	1	X	X	X	X
492740	Noble 201	1		X	X	X
492750	Noble 301	1			X	X
492780	Organizational Leadership I	.5		X	X	X
492790	Organizational Leadership II	.5		X	X	X
492550	Senior Technology Seminar	1				X
492800	Social Media Management	1		X	X	X
Non-Business and Marketing Courses						
465010	Computer Science with Programming Emphasis I	.5	X	X	X	X
465020	Computer Science with Programming Emphasis II	.5	X	X	X	X
494150	Fundamentals of Advertising and Graphic Design	1	X	X	X	X
465310	Mobile Application Development – Level 1	.5	X	X	X	X
465320	Mobile Application Development – Level 2	.5	X	X	X	X
493860	Internship	1			X	X

PATHWAY		PROGRAM OF STUDY				
Web Design and Digital Communications		Web Design				
Course Code	Core Course	Credit	9th	10th	11th	12th
492120	Computerized Business Applications	1	X	X	X	X
or						
460100	Technology Design and Applications	1	X	X	X	X
+						
492670	Web Technologies	1	X	X	X	X
+ one full credit from the list below						
Course Code	Elective Course	Credit	9th	10th	11th	12th
492060	Business Communications	.5	X	X	X	X
492070	Business Law I	.5	X	X	X	X
492080	Business Law II	.5	X	X	X	X
492100	Computerized Accounting I	1	X	X	X	X
492170	Entrepreneurship	1	X	X	X	X
491990	Financial Literacy	.5		X	X	X
492290	Financial Planning and Wealth Management	1.5		X	X	X
492330	Marketing	1	X	X	X	X
492730	Noble 101	1	X	X	X	X
492740	Noble 201	1		X	X	X
492750	Noble 301	1			X	X
492780	Organizational Leadership I	.5		X	X	X
492790	Organizational Leadership II	.5		X	X	X
492550	Senior Technology Seminar	1				X
492760	Social Media and Communications	1	X	X	X	X
Non-Business and Marketing Courses						
465010	Computer Science with Programming Emphasis I	.5	X	X	X	X
465020	Computer Science with Programming Emphasis 2	.5	X	X	X	X
494150	Fundamentals of Advertising and Graphic Design	1	X	X	X	X
465310	Mobile Application Development – Level I	.5	X	X	X	X
465320	Mobile Application Development – Level 2	.5	X	X	X	X
493860	Internship	1			X	X

Marketing Cluster

This cluster allows students to acquire skills related to planning, managing, and performing marketing activities to reach organizational objectives.

PATHWAY		PROGRAM OF STUDY				
Marketing Management		Entrepreneurship				
Course Code	Core Course	Credit	9th	10th	11th	12th
492120	Computerized Business Applications	1	X	X	X	X
or						
460100	Technology Design and Applications	1	X	X	X	X
+						
492170	Entrepreneurship	1	X	X	X	X
+ one full credit from the list below						
Course Code	Elective Course	Credit	9th	10th	11th	12th
492140	Advanced Database Applications	.5	X	X	X	X
492450	Advanced Spreadsheet Applications	.5	X	X	X	X
492060	Business Communications	.5	X	X	X	X
492070	Business Law I	.5	X	X	X	X
492080	Business Law II	.5	X	X	X	X
492100	Computerized Accounting I	1	X	X	X	X
492190	Fashion Merchandising	.5	X	X	X	X
491990	Financial Literacy	.5		X	X	X
492290	Financial Planning and Wealth Management	1.5		X	X	X
492340	Marketing Apprenticeship/Work-Based Learning	1			X	X
492730	Noble 101	1	X	X	X	X
492740	Noble 201	1		X	X	X
492750	Noble 301	1			X	X
492780	Organizational Leadership I	.5		X	X	X
492790	Organizational Leadership II	.5		X	X	X
492700	Small Business Operations	1		X	X	X
492640	Sports and Entertainment Marketing	.5	X	X	X	X
Non-Business and Marketing Courses						
493320	Customer Relations	1	X	X	X	X
494150	Fundamentals of Advertising and Graphic Design	1	X	X	X	X
493860	Internship	1			X	X

PATHWAY		PROGRAM OF STUDY				
Marketing Research		Marketing				
Course Code	Core Course	Credit	9th	10th	11th	12th
492120	Computerized Business Applications	1	X	X	X	X
or						
460100	Technology Design and Applications	1	X	X	X	X
+						
492330	Marketing	1	X	X	X	X
+ one full credit from the list below						
Course Code	Elective Course	Credit	9th	10th	11th	12th
492140	Advanced Database Applications	.5	X	X	X	X
492450	Advanced Spreadsheet Applications	.5	X	X	X	X
492060	Business Communications	.5	X	X	X	X
492070	Business Law I	.5	X	X	X	X
492080	Business Law II	.5	X	X	X	X
492100	Computerized Accounting I	1	X	X	X	X
492170	Entrepreneurship	1	X	X	X	X
492190	Fashion Merchandising	.5	X	X	X	X
491990	Financial Literacy	.5		X	X	X
492290	Financial Planning and Wealth Management	1.5		X	X	X
492350	Marketing Management	1		X	X	X
492340	Marketing Apprenticeship/Work-Based Learning	1			X	X
492620	Noble 101	1	X	X	X	X
492740	Noble 201	1		X	X	X
492750	Noble 301	1			X	X
492780	Organizational Leadership I	.5		X	X	X
492790	Organizational Leadership II	.5		X	X	X
492700	Small Business Operations	1		X	X	X
492640	Sports and Entertainment Marketing	.5	X	X	X	X
Non-Business and Marketing Courses						
493320	Customer Relations	1	X	X	X	X
494150	Fundamentals of Advertising and Graphic Design	1	X	X	X	X
493860	Internship	1			X	X

Transportation, Distribution, and Logistics Cluster

This cluster allows students to acquire skills in procurement, distribution, transportation, logistics, inventory, customer service and other important aspects of supply chain management.

PATHWAY		PROGRAM OF STUDY				
Logistics Planning and Management Services		Supply Chain and Logistics				
Course Code	Core Course	Credit	9th	10th	11th	12th
492120	Computerized Business Applications	1	X	X	X	X
or						
460100	Technology Design and Applications	1	X	X	X	X
+						
492770	Introduction to Supply Chain and Logistics	1	X	X	X	X
+ one full credit from the list below						
Course Code	Elective Course	Credit	9th	10th	11th	12th
492140	Advanced Database Applications	.5	X	X	X	X
492450	Advanced Spreadsheet Applications	.5	X	X	X	X
492060	Business Communications	.5	X	X	X	X
492070	Business Law I	.5	X	X	X	X
492080	Business Law II	.5	X	X	X	X
492380	Business Procedures	1	X	X	X	X
492100	Computerized Accounting I	1	X	X	X	X
492170	Entrepreneurship	1	X	X	X	X
491990	Financial Literacy	.5		X	X	X
492290	Financial Planning and Wealth Management	1.5		X	X	X
492330	Marketing	1	X	X	X	X
492730	Noble 101	1	X	X	X	X
492740	Noble 201	1		X	X	X
492750	Noble 301	1			X	X
492780	Organizational Leadership I	.5		X	X	X
492790	Organizational Leadership II	.5		X	X	X
492000	Securities, Investments, Risk, and Insurance	1	X	X	X	X
492760	Social Media Communications	1	X	X	X	X
Non-Business and Marketing Courses						
491030	Agribusiness Management	1		X	X	X
494180	Brakes/Manual Drive Train	1	X	X	X	X
493320	Customer Relations	1	X	X	X	X
494190	Electrical Systems/HVAC	1	X	X	X	X
494200	Engine Performance/Engine Repair	1	X	X	X	X
494210	Suspension and Steering/Automatic Transmission	1	X	X	X	X
494650	Diesel Brakes	1	X	X	X	X
494660	Medium/Heavy Electrical Systems/HVAC	1		X	X	X
493860	Internship	1			X	X

Business and Marketing Technology Classes

Middle School Courses

399040 Computer Technology: Introduction 1 Semester

Credit: 0 Grade Levels: 7-8

Computer Technology: Introduction is designed to prepare 7th and 8th grade students with an introduction to computers and business applications that are necessary to live and work in a technological society. Emphasis is given to data entry, computer concepts and operations, programming and design, computer software, implications of technology in society, and ethics. The course is designed to provide students with an understanding of the business, industrial, and scientific areas in which the computer is used.

378910 Information and Communications Technology 1 Semester

Credit: 0 Grade Levels: 7-8

Information and Communications Technology is designed to prepare students for the transition into 9th grade. This course is the culmination of skills mastered beginning in the 5th grade, while adding database and electronic presentation skills. The minimum required amount of time to teach this course is sixty clock hours or one semester. ***The prerequisite for this course is Introduction to Business Communications and Technology.***

388930 Introduction to Business 1 Semester

Credit: 0 Grade Levels: 8

Introduction to Business is designed to highlight each of the career clusters and pathways for the Department of Career Education. Emphasis is placed on the following: understanding the importance of Career and Technical Student Organizations (CTSO), soft skill development, and Business Management, Information Technology, Finance, Hospitality and Tourism, Marketing career clusters and pathways as offered at the high school level.

378920 Introduction to Business Communications and Technology 1 Semester

Credit: 0 Grade Levels: 7-8

Introduction to Business Communications and Technology is the first semester of a two-semester foundation sequence designed to provide students with the necessary foundation skills to be successful in a technology enriched world. Word processing skills will be expanded as well as the introduction to basic spreadsheet functions and manipulation. The minimum required amount of time to teach this course is sixty clock hours or one semester.

The prerequisite for this course is Keyboarding or KeyCode.

492630 Introduction to Marketing 1 Semester

Credit: 0 Grade Levels: 8

Introduction to Marketing is designed to provide students with a basic understanding of marketing and its role in society. Students will examine career opportunities in marketing and explore the interpersonal and communication skills needed for success in marketing careers. Students enrolled in the Introduction to Marketing class will discover the importance of Career and Technical Student Organizations (CTSO), and their leadership opportunities. Students are encouraged to participate in CTSO's such as DECA or FBLA. It is also encouraged to incorporate work-based learning opportunities such as field trips, guest speakers, job shadowing, and similar activities.

399230 Keyboarding (grades 4-6)

Credit: 0 Grade Levels: 5-6

Keyboarding is a nine-week course designed to help students develop speed and accuracy by learning the touch operation of alphanumeric/keyboard characters. Emphasis is placed on the following: mastery of the keyboard with desirable keyboarding techniques, development of speed and accuracy, and proper care of the equipment. Keyboarding is foundation for developing entry-level skills for business careers. **This course does not meet state standards.**

399050 Keyboarding (grades 7-8)1 Semester**Credit: 0 Grade Levels: 7-8**

Keyboarding is designed to help students develop speed and accuracy by learning the touch operation of alphanumeric/keyboard characters. Emphasis is placed on the following: mastery of the keyboard with desirable keyboarding techniques, development of speed and accuracy, and proper care of the equipment. Keyboarding is a foundation for developing entry-level skills for business careers.

399060 Keyboarding Applications (grades 7-8) 1 Semester**Credit: 0 Grade Levels: 7-8**

Keyboarding Applications is designed to further develop keyboarding skills. Emphasis is placed on the following: developing speed and accuracy, proofreading, producing mailable copy from rough drafts, preparing handwritten and statistical documents, and improving production of various types of business communications.

399320 KeyCode 1 Semester**Credit: 0 Grade Levels: 7-8**

KeyCode is designed to cover the state keyboarding and computer science coding block standards. Emphasis is placed on the following: understanding the importance of Career and Technical Student Organizations (CTSO), soft skill development, operation and management of classroom equipment, touch typing method, simple document formatting, and the computer science coding block. A minimum of 5 weeks shall be dedicated to students using keyboarding skills as they relate to formulating algorithms as well as create, analyze, test and debug computer programs in order to solve real-world problems. A text based programming language is required to accomplish these tasks.

ARCareerEd Prior Approval Middle School Courses

Please contact the Business and Marketing Program Coordinator to receive approval to implement these courses. Phone: 501-682-1768

355910 Input Technologies**Credit: 0 Grade Level: 5**

Input Technologies is designed to provide students with the necessary foundation skills to be successful in a technology enriched world. The minimum required amount of time to teach this course is forty minutes per week or its equivalent during the school year.

366910 Technologies Communication**Credit: 0 Grade Levels: 6**

Technology Communications continues to develop the technology skills learned in the 5th grade. Word processing skills will be expanded as well as the introduction to basic spreadsheet functions and manipulation. The minimum required amount of time to teach this course is forty minutes per week or its equivalent during the school year.

High School Courses**492140 Advanced Database Applications****Credit: .5 Grade Levels: 9-12**

Advanced Database Applications is designed for students to work with tables operations, forms and reports. Students will learn advanced database features to manipulate and present data through advanced queries, calculated controls, macros, switchboards, custom forms/reports, subforms, subreports, joins, relationships, and more. Students will explore techniques in sharing, integrating, analyzing and managing a relational database. ***The prerequisite for this course is Computerized Business Applications (492100) or Technology Design Applications (460100).***

492450 Advanced Spreadsheet Applications**Credit: .5 Grade Levels: 9-12**

Advanced Spreadsheet is designed to provide students with in-depth coverage of higher level skills, including: creating and working with tables, pivot tables, pivot charts, managing multiple worksheets and workbooks, using advanced functions and filtering, developing an application, and working with financial tools. A basic review of creating and formatting a workbook, working with functions, and creating charts and graphics is used as an introduction into this course also.

492230 Arkansas Hospitality and Tourism**Credit: .5 Grade Levels: 9-12**

Arkansas Hospitality and Tourism is designed to familiarize students with Arkansas careers in hospitality and the opportunities available to promote travel and tourism in the state. Emphasis will be on the food industry, transportation industry, lodging industry, and tourist attractions within the various geographical locations in the state.

492060 Business Communications**Credit: .5 Grade Levels: 9-12**

Business Communications will explore concepts, theories, and skills that lead to communicating effectively and appropriately in a variety of workplace situations. This course will cover communications basics for verbal, nonverbal, and written communications, as well as application of advanced level communication skills, teamwork, collaboration, and technology.

492070 Business Law I**Credit: .5 Grade Levels: 9-12**

Business Law I covers the history and evolution of our law, the fundamental elements of the American legal system, and its common law origins. The scope of the course will include: the application and operation of the legal system in the remedy of business disputes, the development and operation of the court system, regulatory law for business firms, consumer protection, and contract law.

492080 Business Law II**Credit: .5 Grade Levels: 9-12**

Business Law II covers the standards of law that govern our business and personal affairs in today's marketplace. It is designed to help students better understand the business world in which they live, gain confidence in conducting business, and be better prepared to recognize legal problems in management of an enterprise. Topics will include: credit and bankruptcy, commercial paper, employment and agency, forms of business organization (proprietorships, partnerships, and corporations), real and personal property, bailments, and insurance.

492380 Business Procedures**Credit: 1 Grade Levels: 9-12**

Business Procedures provides students with concepts and skills in technology, communication, human relations, financial and record management, and employability skills that can be applied in the management and administration of an office.

492100 Computerized Accounting I**Credit: 1 Grade Levels: 9-12**

Computerized Accounting I emphasizes on basic accounting principles as they relate to both manual and computerized financial systems. Instruction is on an integrated basis, using computers, spreadsheet software, and electronic calculators as the relationships and processes of manual computerized accounting are presented. Entry-level skills in the accounting occupations can be attained.

492110 Computerized Accounting II**Credit: 1 Grade Levels: 10-12**

Computerized Accounting II is designed to provide students with the knowledge, understanding, and skills necessary for college and career readiness. Departmental and corporate accounting systems are components of the course with emphasis given to computerized software and automated systems.

The prerequisite for this course is Computerized Accounting I (492100).

492120 Computerized Business Applications**Credit: 1 Grade Levels: 9-12**

Computerized Business Applications is designed to prepare students in the use of software that is industry recognized. Topics include: word processing, spreadsheets, database, presentations, and cloud computing. This course will focus on skills needed to obtain Microsoft Office Specialist (MOS) certifications.

This course or Technology Design Applications (492100) is a core requirement for all clusters, pathways, and programs of study.

492170 Entrepreneurship**Credit: 1 Grade Levels: 9-12**

Entrepreneurship is designed to offer an overview of the American business enterprise system. The course includes: a study of various forms of ownership, internal organization, management functions, and financing as they relate to business. The course content focuses on the concepts and practices of small business ownership and management, risk management, the use of technology, legal, ethical, and social obligation of business, savings, investments, taxes, and government.

492190 Fashion Merchandising**Credit: .5 Grade Levels: 9-12**

Fashion Merchandising is designed to offer an overview of fashion and merchandising industry. It provides the foundation in preparing students for a wide range of careers available in the different levels of the fashion, merchandising and retail industry. Emphasis is given to historical development, marketing, customer service, retailing, fashion, merchandising, and design.

491990 Financial Literacy**Credit: .5 Grade Levels: 10-12**

This course is designed to increase personal finance knowledge and skills and prepare students to successfully manage financial resources. This course also focuses on the individual's role and financial responsibilities as a student, citizen, consumer, and active participant in the business world. Emphasis is placed on activities and competitions within career and technical student organizations (i.e., FBLA, FCCLA, and DECA).

492290 *Financial Planning and Wealth Management**Credit: 1.5 Grade Levels: 10-12**

Financial Planning and Wealth Management introduces students to the basic concepts of economics and financial literacy then build on those topics to provide a more in-depth study of wealth management and personal financial planning. Components of financial planning and strategies used in the accumulation and conservation of wealth will be the focus. Strategies for investing, tax, insurance, and retirement planning, as well as estate planning will be studied. In addition, basics of business financial planning will also be discussed, including the purpose and use of financial statements in making business decisions.

According to the Commissioner's Memo Number **LS-18-049 dated **12/15/2017**, this course will meet Act 480 requirements, will embed the Economics standards, and will also count as a CTE elective for Business and Marketing programs of study. Students completing this course will receive 1.5 credits (1 career focus and .5 economics). Read the full Commissioner's Memo at this [link](#).*

492250 Hospitality Administration**Credit: .5 Grade Levels: 9-12**

Hospitality Administration is an in-depth study of the hospitality industry. Students will become familiar with careers in hospitality and the primary segments of the hospitality industry. The importance of personal presentation, communication skills, guest satisfaction, the ability to perform business math, along with marketing concepts will also be covered in this course. **The prerequisite for this course is Tourism Industry Management (492260).**

492770 Introduction to Supply Chain and Logistics**Credit: 1 Grade Levels: 9-12**

Introduction to Supply Chain and Logistics prepares students with knowledge of the supply chain industry. It focuses on an understanding of global logistics, supply chain technology, the transportation industry and regulations, understanding of planning and routing of shipments, communication skills, and customer service skills.

690050 Keyboarding (9-12)**Credit: 0 Grade Levels: 9-12**

Keyboarding helps students develop speed and accuracy by learning the touch operation of alphanumeric/keyboard characters. Emphasis is placed on the following: mastery of the keyboard with desirable keyboarding techniques, development of speed and accuracy, basic problem-solving applications of centering and arranging reports, letters, and tables, proofreading, formatting, and proper care of the equipment. Keyboarding is a foundation for developing entry-level skills for business careers. Only students who failed or did not take Keyboarding in the 7th or 8th grade are to be enrolled in this course. **This is a foundation course.**

492320 Management**Credit: 1 Grade Levels: 9-12**

Management is designed to prepare students for managerial careers. Students will study the value of soft skills in the business environment. Other topics will include: the role of a manager, business organization and government regulations, information and communication systems and the use of technology, financial status of a business, product/service development, production, marketing, distribution, pricing, and human resources management.

492330 Marketing**Credit: 1 Grade Levels: 9-12**

Marketing students will find out what it takes to market a product or service in today's fast-paced business environment. Students will learn the fundamentals of marketing using real-world business examples. Students will learn about buyer behavior, marketing research principles, demand analysis, distribution, financing, pricing, and product management. Although not mandatory, many students can benefit from the on-the-job training component (*Marketing Apprenticeship/Work-Based Learning 492340*) of this course. The student's job must relate to his/her career objective.

492340 Marketing Apprenticeship/Work-Based Learning**Credit: 1 Grade Levels: 11-12**

Although not mandatory, many students can benefit from the on-the-job training component (cooperative education) of Marketing and Marketing Management. The student's job must relate to his/her career objective, and the work-site trainer must develop a list of competencies to be taught on the job that coordinate with classroom competencies and career objectives. All aspects of the industry must be taught. Students attend school part of the day and work in a marketing position for the remainder. A minimum of 135 hours during each semester on the job is required for the work experience credit of .5. Students must take this course concurrently with Marketing (492330), Marketing Management (492350) or Entrepreneurship (492170).

492350 Marketing Management**Credit: 1 Grade Levels: 10-12**

Marketing Management is designed to develop decision-making skills through the application of marketing and management principles. Competencies will be accomplished by utilizing various instructional methods, resources, and direct involvement with marketing businesses. The course will focus on organization, finance, risks, credit, technology, and social aspects. Although not mandatory, many students can benefit from the on-the-job training component (*Marketing Apprenticeship/Work-Based Learning 492340*) of this course. **The prerequisite for this course is Marketing (492330).**

492690 Medical Office Management**Credit: 1 Grade Levels: 9-12**

Medical Office Management is designed to teach students concepts and skills that will be applied in the management and administration of a medical office. The course will focus on careers in the medical office environment, office management skills, patient billing and collections, patient/client service skills, ethics, medical terminology, and health information management. Although not mandatory, many students can benefit from the on-the-job training component (*Office Education Work-Based Learning 492620*) of this course.

492730 Noble 101**Credit: 1 Grade Levels: 9-12**

Noble 101 gives students the context of a public service mindset and an entrepreneurial skill set to equip them for 21st century actions and communications. Students will be given unique opportunities to engage with the community which will serve as an access point to public service and entrepreneurship. This course will provide students with an avenue to complete research, create written documents and pitches, and work in teams to prepare them for future decisions relating to a career path and college selection. Through myriad of experiences, each student will build a personal profile that will serve as a living document that will show who they are and what they have accomplished. This will include a personal bio, picture, and resume that people can access at the student's discretion.

492740 Noble 201**Credit: 1 Grade Levels: 10-12**

Noble 201 is the second course experience in the high school progression of Noble Impact and challenges students to build their credibility through a multitude of pitch based assessments. With individual work, group work (2-3 students), and teamwork (4 students), students will engage in activities that require an entrepreneurial skillset and public service mindset. Core pillars of public service and practicality of entrepreneurship will be used for many different challenges

throughout the year. The primary goal of every Noble Impact experience is to offer access and opportunities that will challenge students to build courage, competence, and character. When building in these three specific areas, we believe the ultimate outcome creates individual credibility. ***The prerequisite for this course is Noble 101(492730).***

492750 Noble 301

Credit: 1 Grade Levels: 11-12

The Noble 301 experience is focused on an apprenticeship model that challenges students through relevant work while requiring them to connect with local for-profit businesses and nonprofit organizations. To achieve this mission, the apprenticeship model strives to offer five different one week industry “shadow” experiences where each student is exposed to multiple industry tracks. Students will complete their five shadow experiences during the first quarter of the school year and will apply to their top two choices. During the final week of the quarter, students will be notified of their industry match and acceptance. At the beginning of the second quarter, each student will begin an apprenticeship with their host company/organization. The final week of the quarter will require each student to “pitch” their learning as the final assessment of the semester. Throughout the apprenticeship, students will focus on specific, and agreed upon, skills to cultivate during the experience. ***The prerequisite for this course is Noble 201 (492740).***

492620 Office Education Work-Based Learning

Credit: 1 Grade Levels: 11-12

The student's job must relate to his/her career objective and the work-site trainer must develop a list of competencies to be taught on the job relating to classroom competencies and career objectives. All aspects of the industry must be taught. A minimum of 135 hours during each semester on the job is required for the work experience credit of .5. This must be taken concurrently with Management (492320), Office Education Cooperative (492130), Medical Office Administration (492690), or Business Procedures (492380).

492780 Organizational Leadership I

Credit: .5 Grade Levels: 10-12

Organizational Leadership I offers a foundation for understanding and evaluating organizational leadership. It is designed to assist student in developing a framework for understanding and becoming effective leaders. This course examines topics such as professionalism, organizational behavior, trends and issues, creativity, innovation, leadership, and teamwork.

492790 Organizational Leadership II

Credit: .5 Grade Levels: 10-12

Organizational Leadership II offers a fundamental understanding and evaluation of organizational leadership. It is designed to assist student leaders and aspiring student leaders in developing a mindset of leadership with the skills and knowledge necessary to become an effective organizational leader. This course examines topics such as traits and motives of leaders, influence tactics, conflict resolution, leadership development, and succession planning.

492090 Principles of Banking

Credit: 1 Grade Levels: 9-12

Principles of Banking provides an introduction to banking services and financial institutions. Students will study principles of banking transactions and the services of a bank. Topics include: soft skills in the workplace, history of banking, Federal Reserve, banking laws, ethics, and banks as business, banking services, bank security, ten-key touch, and banking transactions.

492000 Securities, Investments, Risk, and Insurance

Credit: 1 Grade Levels: 9-12

Securities, Investments, Risk, and Insurance provides students with the tools and techniques needed for short-term earnings and long-term saving and investing strategies while emphasizing an understanding of the value of money. In addition, ethical and professional characteristics will be addressed. Project-based learning opportunities will be used to introduce students to the real-world applications of insurance planning, risk management, and investment avenues of personal financial planning.

492700 Small Business Operations**Credit: 1 Grade Levels: 10-12**

Small Business Operations prepares students who are interested in learning how to manage a small business. Students are required to participate in laboratory work. The lab experience will consist of operating a School Based Enterprise. In addition to the lab work, students will also complete a series of lessons designed to prepare them for the transition to higher education and/or an entrepreneurial career. ***Specific documentation will be required to be submitted to ARCareerEd. The prerequisites for this course is Marketing (492330) or Entrepreneurship (492170).**

492760 Social Media and Communications**Credit: 1 Grade Levels: 9-12**

Social Media and Communications enhances technology skills, job search and employability skills, along with communication skills. Students will create an online electronic career portfolio focused on an individual career path, create social media and viral marketing campaigns, participate in video conferencing, cloud-based collaboration, and learn and practice other workplace related communication technologies and channels. Students will apply verbal and nonverbal communication skills related to both spoken and written communications; technology will be used to enhance these skills. Productivity programs and apps will be used to teach time management, organization and collaboration skills, cloud storage and computing. Students will also create career-related documents according to professional layout and design principles, and will also learn the photo and video editing skills needed to create promotional and informational business communications and viral marketing campaigns.

492800 Social Media Management**Credit: 1 Grade Levels: 10-12**

This two-semester course extends training in managing social media content and data to maintain brand integrity, customer satisfaction, and profitability of a business. Students will learn how to create engaging video and graphic content directed toward specific target markets and for specific social media platforms. Students will also explore and practice various methods for gathering and analyzing data in order to maximize return on investment for social media marketing efforts. **The prerequisite for this course is Social Media and Communications (492760).**

492640 Sports and Entertainment Marketing**Credit: .5 Grade Levels: 9-12**

Sports and Entertainment Marketing is designed to provide students with an understanding of marketing concepts, foundations, and functions as they relate to the growing area of sports and entertainment. This course will cover professionalism, marketing foundations, products, pricing, promotion, licensing, and career planning in sports and entertainment.

460100 Technology Design and Applications**Credit: 1 Grade Levels: 9-12**

Technology Design and Applications is designed to prepare students for the transition from school to work. This course was developed to advance and strengthen the skills mastered in the 5th through 8th grades. It includes project based learning in areas of word processing, spreadsheets, database, and presentations. The students will apply tool software skills to business projects and use projects to develop competencies for national certification. The course is designed to provide opportunities for independent and collaborative work. It is a year-long course. **This course or Computerized Business Applications (CBA) is a core requirement for all clusters, pathways, and programs of study.**

492260 Tourism Industry Management**Credit: 1 Grade Levels: 9-12**

The content for this course includes but is not limited to customer service, management and supervisory development, management theory, decision making, organization, communications, human relations, leadership training, personnel training, travel counseling, reservationists, ticketing, tour development, security, sales, travel and tourism accounting, marketing, and convention management, applicable local, state, and federal laws and asset management.

492670 Web Technologies**Credit: 1 Grade Levels: 9-12**

Web Technologies is an exploration of all of the elements of good web page design. Students will begin by creating web pages using HTML, XHTML and CSS. Students will investigate several Adobe software packages to enhance web sites such as: Photoshop to create and edit graphics, Flash to create animations and web banners, Fireworks to create and optimize images for the web, and Premiere or other video/audio software to create and edit videos and audio. Students

will focus on how to use web design software such as Dreamweaver to create websites. Students will also use multimedia equipment such as digital cameras and camcorders to add this rich media to websites. Students will complete several real-world applications such as Flash videos and web pages for the school or other organizations or businesses. Web Communication using Adobe Dreamweaver® (Associate) certification is encouraged.

ARCareerEd Prior Approval Business/Marketing Courses

492550 Senior Technology Seminar

Credit: 1 Grade Levels: 12

Senior Technology Seminar is project-based course. Students are assigned actual computer projects from the school district and local businesses. The projects may include creating presentations to be used at meetings and seminars, creating advanced databases, maintaining Web pages, customizing database reports and screens, maintaining computers, etc. Districts desiring to implement this course should request approval from the Business and Marketing Education Office. The purpose of this course is to build leadership and 21st Century work skills in students through community-based projects and activities that utilize technical skills and knowledge combined with in-demand soft skills such as effective verbal and written communication, teamwork and collaboration, time management, creative and critical thinking, and problem-solving. This course requires ARCareerEd approval before implementation. Please submit a course syllabus to the ARCareerEd Business and Marketing Dept. Program Coordinator for approval. Elements of the syllabus for this course should include detailed information of the types of project(s) students will work on that will require partnerships and collaboration with school or community partners in order to foster 21st Century work skills in high school students. These projects should be new and fresh and should require research, creativity, critical-thinking, teamwork and collaboration, problem-solving, and time management, as well as civic consciousness and/or school improvement initiatives.

Operational Guide for Curriculum and Career Guidance

CAREER EXPLORATION AND PREPARATION

Why do career planning in your schools?

The Arkansas Department of Education Rules and Regulations Governing Public School Student Services states:

8.0 Documentation of Services

- 8.01 Each building based school site in all school districts shall submit annual reports indicating services provided through the Student Services Plan to the Department of Education.
- 8.03 Each school counselor serving students in buildings housing students in grades 8-12 shall provide a career planning process for each student. During the five-year process documentation of the information provided must be maintained as to whether the information was discussed with the student in individual or group settings. Each counselor is to develop a form to document these activities which can be used district-wide. A copy of the form and a statement of how services were provided must be submitted to the Department of Education as part of the annual report required in 8.01.

Student Organization

A career and technical student organization for seventh and eighth grade courses are optional. It is recommended that Career Orientation supports existing ARCareerEd student organization chapters.

MIDDLE/JUNIOR HIGH SCHOOL COURSES (Grade Levels 7-8)

Course Code	Middle School Elective	Credit	7th	8th
399100	Career Orientation	n/a	X	X
399280	Career Development	n/a	X	X

399100 Career Orientation

Credit: Grade Levels 7-8

This course is a foundation course that uses hands-on activities and research, providing an opportunity for exploring career clusters. It is the point at which educational development begins with the establishment of individual career plans. Students will identify personal traits and characteristics for a better understanding in their pursuit of finding a meaningful, fulfilling, and rewarding career. Career Orientation may be offered in the seventh or eighth grade (eighth grade recommended) for a minimum of one semester (60 seat hours), which can be offered either first semester or second semester. It may also be offered for an entire year. Refer to Standards.

399280 Career Development**Credit: Grade Levels 7-8**

Career Development is a replacement course for Career Orientation using technology applications in researching career planning, preparation, exploration and development, as well as organizing/presenting their research findings. A classroom equipped with computers is required for each student in the Career Development class. Students will be knowledgeable about the world of work, career options, and the personal skills, aptitudes, and expectations to complete the education and training requirements to enter into a future career. An instructor must have the 418 Career Development endorsement.

HIGH SCHOOL COURSES (Grade Levels 9-12)

Course Code	High School Offerings	Credit	9th	10th	11th	12th
493850	Keystone	.5	X	X		
493900	Career Readiness	.5	X	X	X	X
493880	College and Career Readiness *	.5	X	X	X	X
493910	Career Ready 101 Online* (This course name will be changing to WorkKeys 2.0)	.5	X	X	X	X
493890	ARCareerEd Career Cluster Senior Seminar	.5			X	X
493860	Internship	1			X	X

*NOTE: Courses 493880 (College & Career Readiness) and 493910 (Career Ready 101 Online) are highly recommended to be offered to students in grades 11-12 due to the age requirement for the WorkKeys assessment.

493850 Keystone**Credit: .5 Grade Levels 9-10**

The Keystone course is a one semester course offered in grades 9-10. This course is designed to help ninth and tenth graders successfully navigate high school. Students will receive instruction in self-realization, interpersonal skills, study skills, self-management skills, goal setting, and planning strategies. This transition course will create a sense of belonging among students by having them become productive citizens of their school and community. Students will receive guidance in investigating their own interests, values, and aptitudes in relation to possible Career Pathways with life-long learning and will begin developing a flexible education plan for high school and beyond.

493900 Career Readiness**Credit: .5 Grade Levels: 9-12**

Career Readiness is a one semester course offered in grades 9-12. It focuses on career preparation skills, interpersonal skills, problem solving, critical thinking skills, teamwork, self-management, communications skills, and technology skills. Emphasis will be placed on employable skills in job application and job search. Each student will develop a career portfolio.

493880 College and Career Readiness**Credit: .5 Grade Levels: 9-12**

College and Career Readiness is a one semester course offered to students in grades 9-12.

However, it is highly recommended for students in grades 11-12 due to the age requirement for the WorkKeys assessment. The course content shall reflect postsecondary education and training opportunities for success at the college level or employable level. It focuses on WorkKeys skills including Graphic Literacy, Applied Mathematics, and Workplace Documents. The online computer-based KeyTrain curriculum is required to prepare students for the ACT WorkKeys assessments for the Arkansas Career Readiness Certificate. Students must be at least 16 years of age, successfully pass level four or higher in KeyTrain Career Ready 101 curriculum, and have a Social Security number to take the ACT WorkKeys assessments. The curriculum, assessments, and Career Readiness Certificate (CRC) are provided free of charge to the school and to the student. WorkKeys assessment takers must also register online with the Arkansas Joblink system in the Department of Workforce Services.

Referral reports must be sent to the state office and arrangements must be made with ACT WorkKeys proctors to help students earn the CRC.

493910 Career Ready 101 Online (ACT WorkKeys 2.0 – new version)**Credit: .5 Grade Levels 9-12**

This is a course offered totally online for high school students in grades 9-12. However, it is highly recommended for students in grades 11-12 due to the age requirement for the WorkKeys assessment. This course can be used as an elective toward completer status in any of the career and technical programs of study. The curriculum for this course is the same as Career Readiness (493900) with the addition of the WorkKeys skills of Graphic Literacy, Applied Mathematics, and Workplace Documents from College and Career Readiness (493880).

493890 ARCareerEd Career Cluster Senior Seminar**Credit: .5 Grade Levels 11-12**

ARCareerEd Career Cluster Senior Seminar is a one semester course offered to students in grades 11-12. This course is designed to help career and technical education students successfully transition from high school to a postsecondary education and workplace. Senior Seminar should be used to culminate and advance a high school career and technical student with plans to continue the pathway of study at the postsecondary level, go directly into the workforce with necessary employment credentials, or enter the military. The program is designed to be a community experience within the focus of a career pathway to gain in-depth knowledge and understanding of the industries related to the technical skills developed.

Senior Seminar is a course that focuses on progressive development and self-promotion through experiential learning to improve one's profile. One-third of designed activities should give students work-based experience, one-third exploratory research, and approximately one-third instructor-led guidance, explanation, and facilitation. Activities shall include campus tours, diversity awareness, education planning and choosing a major area of study, time management, setting education and career goals, note taking and study skills, test anxiety, necessary technology skills, social media, and health and wellness.

493860 Internship

Credit: 1 Grade Levels: 11-12

The Internship course is offered to students in grades 11-12 who are in good academic standing and have completed at least two units in a chosen career focus area. The internship course is designed to assist students in their specific career focus areas and to help them successfully transition from school to career. Students who expect to begin their careers immediately upon high school graduation, as well as those who need to complete post-secondary training prior to starting a career can benefit from the course. The structure includes a strong business partnership that links the course and its participants to current resources, information, and guidance from industry professionals. It provides intense, competency-based classroom and work-site instruction specifically tailored to meet the needs of individual students. Each classroom and worksite competency an intern successfully completes is documented and placed in a portfolio. The intern receives the portfolio upon completion of the internship course. It also fosters articulation of programs between high schools and postsecondary education, credit-granting institutions, and apprenticeship programs. A post-graduation monitoring system is incorporated that identifies and addresses graduates' ongoing needs as they advance toward their identified career goals.

Classroom Instruction

The classroom portion of the internship course focuses on teaching students the basic skills required by all employers. Interns are individually assessed and weak areas are addressed, while strong areas are reinforced. The KeyTrain curriculum is recommended to prepare students for the ACT WorkKeys assessments to help them earn the Arkansas Career Readiness Certificate.

- Basic skills in applied reading, writing, mathematics, listening, observation, speaking, and locating information.
- Interpersonal skills in self-management, creative thinking, critical thinking, decision-making and problem solving.
- Workplace skills in business etiquette, communication, work habits, work effectiveness, leadership, and business writing
- Employability skills in job search and job application

Work-site Instruction

Individual work sites must be approved by the internship coordinator. Written agreements shall be established between the school and the work site that outlines appropriate course delivery prior to student placement. Work-site instruction is guided by the employer and directly relates to the student's identified career focus. Compensation is negotiated for each intern and based on fair labor standards. Non-paid internships are allowed but must be approved by program management staff.

Eligibility of Students

1. Students must be at least 16 years of age in order to meet labor law requirements.
2. Students shall apply for acceptance to the internship course. Minimum guidelines for acceptance include:
 - a. Completed at least two units of an identified career major;
 - b. Academic standing of at least 2.0 on a 4.0 scale;
 - c. Acceptable attendance record as determined by the school administration;
 - d. Written recommendations from a counselor, a teacher in the student's career major area, a teacher outside the student's career major, and two personal references from non-relatives;
 - e. Membership in a student organization that reflects intern's career goals and enhances his/her ability to excel in a chosen career focus area.

Course Credits

1. Interns should be expected to complete at least 18 hours of coordinator classroom instruction and 180 hours of work-site (work-based learning) study in order to receive one credit.

2. Interns should receive two credits with a minimum of 36 hours of classroom instruction and 360 hours of work based learning in the work site.
3. A maximum of four credits for completing 72 hours of coordinator contact and 720 hours worksite study within a consecutive two-year period.

Student Organization

A career and technical student organization for Internship does not exist. The internship course is designed to support the guidelines, goals, and objectives of all student organizations. Interns are required to hold membership in the student organization that represents their individual career focus area, if one is available.

Operational Guide for Family and Consumer Sciences Education

CAREER CLUSTER EDUCATION AND TRAINING	
Pathway	Program of Study
Teaching & Training	Education & Training

CAREER CLUSTER HOSPITALITY AND TOURISM	
Pathway	Program of Study
Restaurant & Food and Beverage Services	Culinary Arts
	Food Production, Management, & Services

CAREER CLUSTER HUMAN SERVICES	
Pathway	Program of Study
Consumer Services	Consumer Services
Early Childhood Development & Services	Child Care Guidance, Management, & Services
Family & Community Services	Advanced Nutrition & Dietetics
	Family & Consumer Sciences – Family Studies
	Family & Consumer Sciences –Entrepreneurial Design
Personal Care Services	Family & Consumer Sciences –Food and Nutrition
	Cosmetology

CAREER CLUSTERS: EDUCATION AND TRAINING, HOSPITALITY AND TOURISM, HUMAN SERVICES

Program Description

FACS prepares students for family and work life as well as careers in the family and consumer sciences area. FACS programs provide opportunities to develop knowledge, skills, attitudes, and behaviors that strengthen individuals and families, leading to responsible citizenship leadership, and careers. Programs promote nutrition and wellness, financial literacy, life management skills, and employable soft skills that enable students to function effectively as providers and consumers of goods and services. The critical and creative thinking skills promoted in FACS prepares students to solve complex problems in the diverse environments of a global economy. Family and Consumer Sciences courses are designed to assist students in the development of skills that will enable them to secure employment and advance in a chosen family and consumer sciences career. Students develop employment and career plans with a focus on accountability, as they learn to accept responsibility for actions and personal success.

Family and Consumer Science offers sequential career focus programs of study in multiple pathways correlated to all relevant national standards. Students are encouraged to obtain state and/or national certifications in conjunction with FACS programs.

Career and Technical Student Organization (CTSO)

Family, Career, and Community Leaders of America (FCCLA) shall be an integral part of the FACS instructional program at each school. All local chapters shall affiliate annually, following the guidelines, goals, and objectives of the district, state, and national organization. The Education and Training program of study shall utilize FCCLA as the CTSSO. An Educators Rising chapter may also be chartered annually. For the Orientation to Teaching I & II taught by a licensed teacher other than FACS, an Educators Rising chapter shall be chartered annually. Cosmetology programs shall affiliate annually as part of a SkillsUSA student organization.

Middle Level Courses

Course Code	Course Name	Credit	7 th	8 th	9 th	10 th	11 th	12 th
399080	Family & Consumer Science Investigations	N/A	X	X				
399260	Exploring Personal Finance	N/A	X	X				
399090	Leadership & Service Learning*	N/A	X	X				

*Courses recommend additional ARCareerEd training

Pathways and Programs of Study by Career Cluster

Education and Training Cluster

Planning, managing, and providing education and training services and related support services.

Pathway		Program of Study						
Teaching and Training		Education and Training						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
493240	Orientation to Teaching I *	1				X	X	X
+ two full credits from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12th
493020	Child Development & Parenting	1			X	X	X	X
493080	Family & Consumer Sciences	1			X	X	X	X
493150	Human Relations	.5			X	X	X	X
493160	Leadership & Service Learning *	.5			X	X	X	X
493290	Orientation to Teaching II*	1					X	X
(one credit from the following Non-Family and Consumer Sciences Courses may replace one of the above credit requirements)								
474400	Psychology	.5				X	X	X
474500	Sociology	.5				X	X	X
493860	Internship	1					X	X
495370	Abnormal Psychology	.5			X	X	X	X
579120	AP Psychology	1			X	X	X	X

*Courses recommend additional ARCareerEd training

Hospitality and Tourism

Hospitality and tourism encompasses the management, marketing, and operations of restaurants and other foodservices, lodging, attractions, recreation, and travel-related services.

Pathway		Program of Study						
Restaurant and Food and Beverage Service		Food Production, Management, and Services						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
493120	Food Production, Management & Services	1				X	X	X
493110	Food Safety & Nutrition	1			X	X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12th
493130	Chemistry of Food *	1				X	X	X
493330	Entrepreneurial Experience (E ²)*	1				X	X	X
493080	Family & Consumer Sciences	1			X	X	X	X
491990	Financial Literacy	.5				X	X	X
493160	Leadership & Service Learning *	.5			X	X	X	X
493200	Nutrition & Wellness *	.5			X	X	X	X
493230	ProStart II (2018-2019 only)	1					X	X
Non-Family and Consumer Sciences courses:								
492250	Hospitality Administration	.5			X	X	X	X
492260	Tourism Industry Management	.5			X	X	X	X
493860	Internship	1					X	X

*Courses recommend additional ARCareerEd training

Pathway		Program of Study						
Restaurant and Food and Beverage Service		Culinary Arts						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
493260	Culinary Arts I	1				X	X	X
493270	Culinary Arts II	1				X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12th
493130	Chemistry of Food*	1				X	X	X
493330	Entrepreneurial Experience (E ²)*	1				X	X	X
493080	Family & Consumer Sciences	1			X	X	X	X
491990	Financial Literacy	.5				X	X	X
493110	Food Safety & Nutrition	1			X	X	X	X
493160	Leadership & Service Learning *	.5			X	X	X	X
493200	Nutrition & Wellness *	.5			X	X	X	X
493230	ProStart II (2018-2019 only)	1					X	X
Non-Family and Consumer Sciences courses:								
492250	Hospitality Administration	.5			X	X	X	X
492260	Tourism Industry Management	.5			X	X	X	X
493860	Internship	1					X	X

*Courses recommend additional ARCareerED training

Human Services

This cluster prepares individuals for employment in career pathways that relate to families and human needs.

Pathway		Program of Study						
Consumer Services		Consumer Services						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
493320	Customer Relations*	1				X	X	X
493310	Consumer Services*	1					X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12th
493030	Clothing & Textiles I	.5			X	X	X	X
493060	Clothing & Textiles II	.5			X	X	X	X
493330	Entrepreneurial Experience (E ²)*	1				X	X	X
493080	Family & Consumer Sciences	1			X	X	X	X
493110	Food Safety & Nutrition	1			X	X	X	X
493140	Housing and Interior Design	.5			X	X	X	X
493150	Human Relations	.5			X	X	X	X
493160	Leadership & Service Learning *	.5			X	X	X	X
491990	Financial Literacy	.5				X	X	X
Non-Family and Consumer Sciences courses:								
493860	Internship	1					X	X

*Courses recommend additional ARCareerED training

Pathway		Program of Study						
Early Childhood Development & Services		Child Care Guidance, Management & Services						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
493010	Child Care Guidance, Management & Services	1				X	X	X
493020	Child Development & Parenting	1			X	X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12th
493080	Family & Consumer Sciences	1			X	X	X	X
493100	Family Dynamics	.5			X	X	X	X
493110	Food Safety & Nutrition	1			X	X	X	X
493150	Human Relations	.5			X	X	X	X
493160	Leadership & Service Learning *	.5			X	X	X	X
493200	Nutrition & Wellness *	.5			X	X	X	X
491990	Financial Literacy	.5				X	X	X
Non-Family and Consumer Sciences courses:								
493860	Internship	1					X	X

*Courses recommend additional ARCareerED training

Pathway		Program of Study						
Family & Community Services		Advanced Nutrition & Dietetics						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
493340	Advanced Nutrition & Dietetics	1				X	X	X
493130	Chemistry of Food*	1				X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12th
493330	Entrepreneurial Experience (E ²)*	1				X	x	x
493080	Family & Consumer Science	1			X	X	X	X
491990	Financial Literacy	.5				X	X	X
493110	Food Safety & Nutrition	1			X	X	X	X
493150	Human Relations	.5			X	X	X	X
493160	Leadership & Service Learning*	.5			X	X	X	X
493200	Nutrition & Wellness*	.5			X	X	X	X
Non-Family and Consumer Sciences courses:								
493860	Internship	1					X	X
495360	Medical Terminology	.5			X	X	X	X

*Courses recommend additional ARCareerED training

Pathway		Program of Study						
Family & Community Services		Family & Consumer Sciences-Family Studies						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
493020	Child Development & Parenting	1			X	X	X	X
493080	Family & Consumer Sciences	1			X	X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12th
493130	Chemistry of Food*	1				X	X	X
493030	Clothing & Textiles I	.5			X	X	X	X
493060	Clothing & Textiles II	.5			X	X	X	X
493330	Entrepreneurial Experience (E ²)*	1				X	X	X
493100	Family Dynamics	.5			X	X	X	X
491990	Financial Literacy	.5				X	X	X
493110	Food Safety & Nutrition*	1			X	X	X	X
493140	Housing & Interior Design	.5			X	X	X	X
493150	Human Relations	.5			X	X	X	X
493160	Leadership & Service Learning*	.5			X	X	X	X
493200	Nutrition & Wellness*	.5			X	X	X	X
Non-Family and Consumer Sciences courses:								
493860	Internship	1					X	X

*Courses recommend additional ARCareerED training

Pathway		Program of Study						
Family & Community Services		Family and Consumer Sciences-Entrepreneurial Design						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
493080	Family and Consumer Sciences	1			X	X	X	X
493030	Clothing & Textiles I	.5			X	X	X	X
493140	Housing & Interior Design	.5			X	X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12th
493130	Chemistry of Food*	1				X	X	X
493020	Child Development & Parenting	1			X	X	X	X
493060	Clothing & Textiles II	.5			X	X	X	X
493100	Family Dynamics	.5			X	X	X	X
491990	Financial Literacy*	.5				X	X	X
493110	Food Safety & Nutrition*	1			X	X	X	X
493330	Entrepreneurial Experience (E ²)*	1				X	X	X
493150	Human Relations	.5			X	X	X	X
493160	Leadership & Service Learning*	.5			X	X	X	X
493200	Nutrition & Wellness	.5			X	X	X	X
Non-Family and Consumer Sciences courses:								
493860	Internship	1					X	X

*Courses recommend additional ARCareerED training

Pathway		Program of Study						
Family & Community Services		Family and Consumer Sciences-Food and Nutrition						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
493080	Family & Consumer Sciences	1			X	X	X	X
493110	Food Safety & Nutrition	1			X	X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12th
491990	Financial Literacy*	.5				X	X	X
493130	Chemistry of Food*	1				X	X	X
493330	Entrepreneurial Experience (E ²)*	1				X	X	X
493160	Leadership & Service Learning*	.5			X	X	X	X
493200	Nutrition & Wellness*	.5			X	X	X	X
Non-Family and Consumer Sciences courses:								
493860	Internship	1					X	X

*Courses recommend additional ARCareerED training

Pathway		Program of Study						
Personal Care Services		Cosmetology						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
494550	Cosmetology I**	1					X	X
494570	Cosmetology II**	2					X	X
Optional								
494560	Cosmetology Lab**	1					X	X

**Special Certification and Licensure Requirements:

1. Meet the licensure requirements for career and technical permits
2. Licensed by the Arkansas State Board of Cosmetology
3. Hold a current cosmetology instructor's license issued by the Arkansas State Board of Cosmetology

MIDDLE LEVEL COURSES

399260 Exploring Personal Finance

Credit: 0 Grade Levels: 7-8

Exploring Personal Finance is a middle level course designed to introduce students to the knowledge and skills required for managing their personal and family financial resources. Students learn to manage resources through hands-on applications that are relevant to their lives. Projects will require students to use academic skills in language arts, math, social sciences, and science. Emphasis is given to the development of competencies related to values, needs, and wants, goals and decision making, career exploration, understanding paychecks, spending plans, savings, electronic banking and credit, financial institutions, and checking accounts.

399080 Family & Consumer Science Investigation (Family CSI)

Credit: 0 Grade Levels: 7-8

Family and Consumer Science Investigation is a one semester course that emphasizes introductory competencies related to personal development, communication, relationships, home environment, nutrition and wellness, food safety and preparation, resource management, child development, and clothing. Students will have an opportunity to fully participate in the CTSO activities of Family, Career, and Community Leaders of America. Upon completion of this course, students will gain skills that will enable them to function more effectively as an employee, family member, community leader, and productive citizen. **In kitchen labs areas, kitchens should be limited to 3-5 students for safety purposes.**

399090 Leadership & Service Learning (7-8)

Credit: 0 Grade Levels: 7-8

Leadership and Service Learning emphasizes the importance of leadership skills, volunteerism, and professionalism in the development of personal qualities. This course focuses on the benefits of community service, leadership roles, and civic responsibilities. Course projects and activities incorporate and reinforce academic skills such as language arts, math, and science. Students are encouraged to explore areas of critical and creative thinking, responsibility, and cultural awareness as they relate to character development. Current technology is used to enhance communication skills and promote professionalism.

HIGH SCHOOL COURSES

493340 Advanced Nutrition Dietetics

Credit: 1 Grade Levels: 11-12

Advanced Nutrition and Dietetics emphasizes the profession of nutrition and dietetics, the professional role of the dietitian, and career opportunities in nutrition and dietetics. The student will explore nutritive processes, nutritional needs for various stages of the life cycle, therapeutic diets, dietary modifications, and timely nutrition-related issues. Critical thinking skills will be used to investigate scientific, consumer-oriented, and global aspects of nutrition, as well as programs, policies, and institutions that influence nutrition services at the local, state, and national levels. Laboratory instruction and work-based learning opportunities should be provided through the course curriculum. Leadership development will be provided through the Family, Career and Community Leaders of America (FCCLA) student organization.

493130 Chemistry of Food**Credit: 1 Grade Levels: 10-12**

Chemistry of Foods focuses on the scientific method to study the various relationships between food science, nutrition, and food preparation. Laboratory skills in measuring, recording, and analyzing data are used to explore these relationships. Experimental methods are employed to analyze food mixtures, food microbiology, food preservations, and complex food systems. Students are given insight into career possibilities as well as up to date information regarding technological advances and future trends in food preparation, preservation, evaluation, and utilization of food.

493130 Child Care Guidance, Management, & Services**Credit: 1 Grade Levels: 10-12**

Experiences in the course are designed to provide students with information and experiences in the occupational field of child care guidance, management and services. Employment opportunities include child care and guidance, foster care, family day care, and teacher assistants. Emphasis in this course is given to development of competencies related to FCCLA, employability, understanding the child care profession, child development, health and safety of children, guiding children's behavior, guiding special needs children, planning and management of a child care program and facility, and the effect of technology in child care and guidance management and services. Upon successful completion of this course, students will receive state certification as child care teacher, child care assistant, or child care aide. The level of certification depends on the number of FACS courses taken in the child care program of study.

493020 Child Development & Parenting**Credit: 1 Grade Levels: 9-12**

Child Development & Parenting focuses on skills needed to guide the physical, intellectual, emotional, and social development of children. Emphasis is given to the development of competencies related to the study of children, pregnancy and prenatal development, birth and the newborn, types of growth and development, stages of growth and development, needs of children, factors influencing the behavior of children, children with special needs, coping with crises, the effects of technology on child development, and careers related to the area of child development. Experiences are designed to assist students in developing an understanding of the parenting process and of parenting skills. Competencies developed in this course will be useful to anyone who lives with, associates with, or works with children. Emphasis in this course is given to the development of competencies related to the parenthood decision, costs of having and raising a child, the promotion of child growth and development, effects of heredity and environment on development, rights and responsibilities of parents and children, providing nurturance, guidance techniques for promoting positive behavior, prevention of child abuse and neglect, promoting health and safety of children, caring for the sick or injured child, parenting a "special needs" child, helping children cope with crises, choosing professionals to help with parenting problems, selection of child-care services, jobs and careers in child and family services

493030 Clothing & Textiles**Credit: .5 Grade Levels: 9-12**

Experience in the Clothing and Textiles course are designed to assist students in developing skills necessary for decision making as a clothing consumer and for understanding the role of the clothing and textile industry in the economy. Emphasis is given to the development of competencies related to clothing selection, clothing needs of family members, clothing care, characteristics of natural and synthetic fibers, types of fabrics and fabric finishes, laws and regulations related to the clothing and textiles industry, use and care of basic sewing supplies and equipment, fabric selection, clothing construction techniques, jobs and careers in clothing and textiles, computer use in clothing and textiles, and effects of technology on the clothing and textiles industry. Upon completion of this course, the student should acquire skills needed for clothing and textiles occupations and develop knowledge of the impact of technology on the clothing and textiles industry.

493060 Clothing & Textiles II**Credit: .5 Grade Levels: 9-12**

This course is to be preceded by Clothing and Textiles I. Experiences in the Clothing and Textiles II course is designed to assist students in further developing skills necessary for the management and construction of individual and/or family garments and projects. Basic construction techniques will be integrated throughout the course in various projects. One or more intermediate level projects will be created using correct construction techniques.

Students will have in-depth experiences using advanced sewing techniques such as pattern alterations, exploring specialty seams and construction, use of facings and advanced hand stitching techniques, and the use of advanced technology. Upon completion of the class students should acquire knowledge and skills needed for designing and constructing projects and develop a professional portfolio. **Prerequisite: Clothing & Textiles I.**

493310 Consumer Services

Credit: 1 Grade Levels: 11-12

Consumer Services is a project-based course that introduces applications within the consumer service industry. Students will obtain a broad-based knowledge in consumer products and industry equipment. Upon completion of the course students will be able to obtain and maintain a profession in consumer services, demonstrate presentations to consumers, and recognize and apply current ethical and legal practices in consumer services. Course content includes using technology to manage different aspects of consumer services to meet consumer expectations and to utilize consumer information and resources.

494550 Cosmetology I

Credit: 1 Grade Levels: 11-12

This two-semester instructional program prepares the individual to begin achieving the basic competencies necessary to begin a program of study in cosmetology.

494570 Cosmetology II

Credit: 2 Grade Levels: 11-12

The course allows the completion of the 1,500 hours of training and instruction required to be eligible for the State Board of Cosmetology licensing examination.

494560 Cosmetology Lab

Credit: 1 Grade Levels: 11-12

This production-based program is designed to allow for the development of skills and knowledge needed to execute a comprehensive cosmetology product.

493260 Culinary Arts I

Credit: 1 Grade Levels: 10-12

Culinary Arts I is a one-year course designed to expand students' knowledge in the culinary arts profession. Emphasis is given to the study of kitchen staples, principles of cooking, soups, stocks and sauces, dairy products, eggs, fruit and vegetables, grains and pasta cookery, meat cookery and principles of baking. Upon completion of this course, students should have attained basic skills needed for entry level employment in the food service industry, customer relations, purchasing and storage of foods, cooking techniques and principles of baking.

493270 Culinary Arts II

Credit: 1 Grade Levels: 10-12

Culinary Arts II is a one-year course designed to expand students' knowledge in the culinary arts profession. Emphasis is on the study of sauces, garde-manger, advanced meat preparation, advanced poultry preparation, fish and shellfish, candy making, chocolate, advanced baking and pastries, plating, presentation and garnishing, and career opportunities. Upon completion of this course, students should have obtained the basic skills needed for employment in the food service industry or further education in culinary arts.

493320 Customer Relations

Credit: 1 Grade Levels: 10-12

Through the use of technology, students will learn to evaluate information that will attract and retain customers, provide customer satisfaction, and apply principles and processes to meet customers' expectations. Students will learn to use business procedures to produce successful customer interactions and business outcomes. Emphasis will be placed on examining the uses of various types of communication skills, preparing policies and procedures, and explaining processes for managing customer relations. Examining processes for managing employees including motivation and problem solving skills. Students will examine the importance of human resource skills, operations procedures and systems to monitor inventory, budgeting, health and safety of employees and customers. Key ethical procedures that protect customers and company interests will be stressed. The opportunity to obtain industry certification(s) will be offered to all students.

493330 Entrepreneurial Experience (E²)**Credit: 1 Grade Levels: 10-12**

The Entrepreneurial Experience is a school-based enterprise where students attain experience researching the market and identifying the need for a product or service. Students will create, produce, and market a product or service as part of the program. This program provides students the opportunity to determine the characteristics of entrepreneurs, and to track the establishment of a successful business from its inception as an entrepreneurial idea. As an enrichment activity, students are encouraged to launch their own entrepreneurial effort outside the school-based enterprise.

493080 Family & Consumer Sciences**Credit: 1 Grade Levels: 9-12**

Family and Consumer Science is designed to provide students with the basic information and skills needed to function effectively in the family and the workforce, within a complex and changing society. Emphasis is given to the development of competencies related to Family, Career, and Community Leaders of America; individual and family relationships, healthy lifestyle choices; housing and interior design; garment care, selection and construction; the physical, emotional, social and intellectual development of children; nutrition, meal planning, food preparation and food service; home management, money management. Upon completion of this course, the student should have developed skills that promote a positive influence on the quality of life. **In kitchen labs areas, kitchens should be limited to 3-5 students for safety purposes.**

493100 Family Dynamics**Credit: .5 Grade Levels: 9-12**

Family Dynamics prepares students to understand the nature, function and significance of human relationships involving individuals and families. Topics include values and goals, citizenship, food and fitness for wellness, career development and responsibility of life relationships. Students will revolve through the national programs of FCCLA. Upon completion of this course students will have an understanding of the impact of the family on an individual's ability to function successfully in an increasingly complex society.

491990 Financial Literacy**Credit: .5 Grade Levels: 10-12**

This course designed to increase financial literacy and prepare students to successfully manage financial resources. This course also focuses on the individual's role and financial responsibilities as a student, citizen, consumer, and active participant in the business world. Emphasis is also placed on activities and competitions within career and technical student organizations (i.e., FBLA, FCCLA, and DECA).

493120 Food Production, Management, & Services**Credit: 1 Grade Levels: 10-12**

Emphasis in this course is given to the development of competencies related to employability; technology in food production, management, and services; sanitation and safety; nutrition as related to food service; servicing of food; purchasing, receiving, and storing of food supplies; production and management of food; use, care, and storage of large and small commercial foodservice equipment; menu planning; and modified diets.

493110 Food Safety & Nutrition**Credit: 1 Grade Levels: 9-12**

This course focuses on the development of essential food safety practices needed to select, receive, store, prepare, and serve food, as well as the skills needed to select food which meets nutritional needs of individuals and families. Students will learn to create and implement an environment of food safety procedures based on the latest FDA Food Code and local regulations. Emphasis is given to the development of competencies related to nutrition, weight control, the food consumer, and the effect of technology on food and nutrition. With completion of this course, students should be able to apply sound sanitation practices, and to apply sound nutritional practices which will have a positive effect on their health. Skills learned are applicable to the National Restaurant Association, ServSafe Certification. . **In kitchen labs areas, kitchens should be limited to 3-5 students for safety purposes.**

493140 Housing & Interior Design**Credit: .5 Grade Levels: 9-12**

Housing and Interior Design focuses on personal and family housing needs, options for meeting those needs, and the impact of the housing industry on the economy. Attention is given to student competencies addressing housing needs, trends, finance, construction and artful principles as applied to housing. Other topics emphasize competencies related to management of furnishings and appliances, conservation, green design, home technology, and career opportunities in housing. Students achieving these competencies will develop an appreciation for housing and interior design. Upon successful completion of the course, the student will be able to make informed decisions in securing and maintaining a personal or family home.

493150 Human Relations**Credit: .5 Grade Levels: 9-12**

Human Relations focuses on the development of skills needed in order to build and maintain successful relationships in the home, community, and workplace. Emphasis is given to the development of competencies related to personality development, decision-making, communication, relationships outside the family, and careers in the field of human relations. Upon completion of this course, the student should have a better understanding of self; know how to communicate effectively; and be able to establish and maintain effective relationships with family members, peers and others.

493160 Leadership & Service Learning (9-12)**Credit: .5 Grade Levels: 9-12**

Leadership and Service Learning emphasize the importance of leadership skills, volunteerism and professionalism in the development of personal qualities. This course focuses on the benefits of community service, leadership roles and civic responsibilities. Course projects and activities incorporate and reinforce academic skills such as math and science. Students are encouraged to explore areas of critical and creative thinking, responsibility, and cultural awareness as they relate to character development. Current technology is used to enhance communication skills and promote professionalism.

493200 Nutrition & Wellness**Credit: .5 Grade Levels: 9-12**

Course Description: Nutrition and Wellness enables students to analyze the interaction of nutrition, foods, and fitness for overall wellness of individuals and families throughout the lifespan. In this course students will develop nutrition and fitness habits to make wise decisions regarding healthy living and prevention of disease through these practices. As active learners, students develop higher order thinking skills and academic skills in the areas of math, science, language arts and social studies through the evaluation of relevant nutrition and wellness information. This course is recommended for all students regardless of their career cluster or pathway, in order to build basic nutrition and wellness knowledge and skills, and is especially appropriate for students with interest in human services, wellness/fitness, health, or food and nutrition related career pathways.

493240 Orientation to Teaching I**Credit: 1 Grade Levels: 10-12**

Orientation to Teaching is a one-year course designed to provide students with information and experiences in the field of education. Students will plan and direct individualized instruction and group activities, prepare instructional materials, assist with record keeping, make physical arrangements, and experience other responsibilities of classroom teachers. Students are involved in observations as well as direct student instruction; placement rotations are utilized to allow students to have experiences in various education career roles, grade levels, subject areas, and ability groups. Upon completion of the course, students should have identified areas of special interest that may be pursued further, have a better understanding of the teaching profession, and have enhanced employability skills which will be of benefit regardless of the occupation or career in which employed.

493290 Orientation to Teaching II**Credit: 1 Grade Levels: 11-12**

Orientation to Teaching II is a course designed to integrate psychological, sociological, and philosophical foundations which prepare students for positive field experiences. This course encourages prospective teachers to become responsible, professional, and ethical as they explore the teaching profession. The students will research and examine foundations within the educational system. Upon completion of this course, a student should have a working knowledge of and employability skills for the education profession. The student will have the opportunity to obtain the paraprofessional certification.

493230 ProStart II**Credit: 1 Grade Levels: 11-12**

ProStart II is the second part of a two-year, industry-based program that prepares students for careers in the restaurant and foodservice industry. Upon completion of ProStart I & II, 400 hours of hospitality-related work experience, and successfully passing the ProStart exam, the student can receive national HBA/ProStart certification.

Operational Guide for Science, Technology, Engineering and Math (STEM)

CLUSTER: ARCHITECTURE AND CONSTRUCTION	
Pathway	Program of Study
Design & Pre-Construction	Architectural/CAD
	Engineering/CAD

CLUSTER: HEALTH SCIENCES	
Pathway	Program of Study
Biotechnology Research & Development	Biomedical Sciences - PLTW

CLUSTER: STEM (SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS)	
Pathway	Program of Study
Engineering & Technology	Pre-Engineering
	Pre-Engineering - PLTW
	Unmanned Aerial Systems

CLUSTER: INFORMATION TECHNOLOGY	
Pathway	Program of Study
Network Systems	Computer Engineering
Programming and Software Development	Mobile Application Development
	Programming

Program Descriptions

STEM Programs are designed to train individuals in in the fields of Science, Technology, Engineering and Mathematics by:

- Solving real-world problems through problem-based learning
- Teaching a rigorous curriculum using advanced technology
- Improving problem solving skills through engineering by design processes
- Designing, planning, managing, building, and maintaining physical structures and the larger built environment, including roadways and bridges and industrial, commercial, and residential facilities and buildings
- Planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development
- Applying technical knowledge and skills in one or more trade, technical, and/or professional occupations. Students will engage in activities and instruction enabling them to use, create, problem solve, and control various technology resources: people, tools, machines, information, materials, energy, capital, and time.

Career and Technical Student Organization (CTSO)

Technology Student Association (TSA), Health Occupations Student Association (HOSA), and/or SkillsUSA shall be an integral part of each instructional program respectively and shall follow the same guidelines, goals, objectives, and participate in activities of the Arkansas state chapter as well as the respective national organization. The CTSO chosen shall align with curriculum that is being taught. TSA is the recommended organization for Mobile Application, Programming or Pre-Engineering Programs such as Project Lead the Way or Engineering Technology Education. HOSA is the recommended program for Biomedical Sciences.

<https://www.arkansastsa.org/>

<http://skillsusaarkansas.weebly.com/>

<http://www.hosa.org/>

JUNIOR HIGH/MIDDLE LEVEL COURSES:

Gateway to Technology: Project Lead the Way (PLTW)

Course Code	Course Name	Credit	7th	8th
399110	Automation and Robotics (AR)	0	X	X
399120	Design and Modeling (DM)	0	X	X
399310	Energy and the Environment (EE)	0	X	X
399250	Flight and Space (FS)	0	X	X
399300	Green Architecture (GA)	0	X	X
399130	The Magic of Electrons (ME)	0	X	X
399140	The Science of Technology (ST)	0	X	X
399180	Career Medical Detectives (MD)	0	X	X

*There are no longer core courses for PLTW Gateway to Technology

Engineering Technology Education

Course Code	Non-Program Specific Electives	Credit	7th	8th	9th
399150	Engineering Technology Education I (ETE 1)	0	X	X	
399160	Engineering Technology Education II (ETE 2)	0	X	X	
494010	Engineering Technology Education I	.5			X
494020	Engineering Technology Education II	.5			X

Pathways and Programs of Study by Career Cluster

Architecture and Construction Cluster

The Architecture and Construction Cluster encompasses designing, planning, managing, building, and maintaining physical structures and the larger built environment, including roadways and bridges and industrial, commercial, and residential facilities and buildings

Pathway		Program of Study						
Design and Pre-Construction		Architectural CAD						
Course Code	Core Course	Credit	7 th	8 th	9 th	10 th	11 th	12 th
494700	Drafting and Design	1			X	X	X	X
494710	Architectural / CAD I	1			X	X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7 th	8 th	9 th	10 th	11 th	12 th
494720	Architectural / CAD Lab	1			X	X	X	X
494730	Architectural / CAD II	1				X	X	X
Non-STEM Course								
493860	Internship	1					X	X

Pathway		Program of Study						
Design and Pre-Construction		Engineering CAD						
Course Code	Core Course	Credit	7 th	8 th	9 th	10 th	11 th	12 th
494700	Drafting and Design	1			X	X	X	X
494740	Engineering / CAD I	1			X	X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7 th	8 th	9 th	10 th	11 th	12 th
494750	Engineering / CAD Lab	1			X	X	X	X
494760	Engineering / CAD II	1				X	X	X
Non-STEM Course								
493860	Internship	1					X	X

Health Sciences Cluster

The Health Science Cluster encompasses planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development

Pathway		Program of Study						
Biotechnology Research and Development		Biomedical Sciences - PLTW						
Course Code	Core Course	Credit	7 th	8 th	9 th	10 th	11 th	12 th
495000	Principles of Biomedical Sciences (PBS)	1			X	X	X	X
495010	Human Body Systems (HBS)	1			X	X	X	X
+ one full credit from the following:								
Course Code	Elective Course	Credit	7 th	8 th	9 th	10 th	11 th	12 th
495020	Medical Interventions (MI)	1			X	X	X	X
495030	Biomedical Innovations (BI)	1			X	X	X	X

STEM (Science, Technology, Engineering, and Mathematics) Cluster

STEM applies technical knowledge and skills in one or more trade, technical, and/or professional occupations. Students will engage in activities and instruction enabling them to use, create, problem solve, and control various technology resources: people, tools, machines, information, materials, energy, capital, and time.

Pathway		Program of Study						
Engineering and Technology		Pre-Engineering						
Course Code	Core Course	Credit	7 th	8 th	9 th	10 th	11 th	12 th
493960	Innovations in Science and Technology I	1			X	X	X	X
493970	Innovations in Science and Technology II	1			X	X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7 th	8 th	9 th	10 th	11 th	12 th
493980	Innovations in Science and Technology III	1					X	X
493990	Innovations in Science and Technology IV	1					X	X
Non-STEM Course								
493860	Internship	1					X	X

Pathway		Program of Study						
Engineering and Technology		Pre-Engineering PLTW						
Course Code	Core Course	Credit	7 th	8 th	9 th	10 th	11 th	12 th
495480	Introduction to Engineering Design (IED)	1			X	X	X	X
495490	Principles of Engineering (POE)	1			X	X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7 th	8 th	9 th	10 th	11 th	12 th
494980	Aerospace Engineering (AE)	1					X	X
495440	Civil Engineering and Architecture (CEA)	1					X	X
495450	Computer-Integrated Manufacturing (CIM)	1					X	X
495460	Digital Electronics (DE)	1				X	X	X
495470	Engineering Design and Development(EDD) -CAPSTONE	1					X	X
Please See ADE CS Course Codes	One Credit of AR Approved Computer Science	1			X	X	X	X
Non-STEM Course								
493860	Internship	1					X	X

Pathway		Program of Study						
Engineering and Technology		*Unmanned Aerial Systems						
Course Code	Core Course	Credit	7 th	8 th	9 th	10 th	11 th	12 th
See page 3 of this document	Unmanned Aerial Systems (UAS) I	1			X	X	X	X
See page 3 of this document	Unmanned Aerial Systems (UAS) II	1				X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7 th	8 th	9 th	10 th	11 th	12 th
See page 3 of this document	Unmanned Aerial Systems (UAS) III	1					X	X
See page 3 of this document	Unmanned Aerial Systems (UAS) Flex Course	1			X	X	X	X
495440	Civil Engineering and Architecture (CEA)	1					X	X
495450	Computer-Integrated Manufacturing (CIM)	1					X	X
495460	Digital Electronics (DE)	1				X	X	X
495470	Engineering Design and Development(EDD) -CAPSTONE	1					X	X
Non-STEM Course								
49860	Internship	1					X	X

This program of study has been in the developmental (pilot) stage. It will be available for 2019-2020 academic year

Information Technology Cluster

This cluster builds linkages in IT occupations framework: for entry level, careers related to the design, development, support, and management of hardware, software, multimedia and systems integration services.

ARCareerEd and ADE Computer Science Course Matrix

NOTE: This course matrix describes the possible combinations of courses that may be used to create a CTE Computer Science Program of Study.

- Applications for a CTE Program of Study (POS) shall be submitted and approved through the ARCareerEd State Start-up Portal to be recognized as a CTE POS.
- All CTE Programs of Study rules and policies must be followed.
- Students must complete a three credit program of study.
- Courses that are at the same credit level may not be repeated for credit within a CTE Program of Study. For example, after a student completes 465010 and 465020, they would then take 465030 and 465040 to complete the additional core course requirement, and then students would take an upper level elective course.
- While the Computer Science POS does not have pre-requisite requirements, each course within a student's program of study must build upon prior learned material.
- The recommended Career and Technical Student Organization (CTSO) is the Technology Student Association (TSA).

The following are *examples* of Computer Science Programs of Study Course sequences:

Example 1 - 465010,465020,465030,465040,465050,465060

Example 2 - 465010,465020,465530,465540,465910,465920

Pathway		Program of Study				
Programming and Software Development		Computer Science				
Level 1 / Level 2 Courses	Maximum 1 Credit from the following					
Course Code	Core Course	Credit	9th	10th	11th	12th
465010	Computer Science with Programming/ Coding Emphasis 1	0.5	X	X	X	X
465020	Computer Science with Programming/ Coding Emphasis 2	0.5	X	X	X	X
465310	Mobile Application Development 1	0.5	X	X	X	X
465320	Mobile Application Development 2	0.5	X	X	X	X
465110	Computer Science with Networking/ Hardware Emphasis 1	0.5	X	X	X	X
465120	Computer Science with Networking/ Hardware Emphasis 2	0.5	X	X	X	X
465510	Robotics 1	0.5	X	X	X	X
465520	Robotics 2	0.5	X	X	X	X
465210	Computer Science with Information Security 1	0.5	X	X	X	X
465220	Computer Science with Information Security 2	0.5	X	X	X	X
565010	College Board Advanced Placement (AP) Computer Science Principles 1	0.5	X	X	X	X
565020	College Board Advanced Placement (AP) Computer Science Principles 2	0.5	X	X	X	X
Level 3 / Level 4 Courses	Maximum 1 credit from the following					
Course Code	Core Course	Credit	9th	10th	11th	12th
465030	Computer Science with Programming/ Coding Emphasis 3	0.5	X	X	X	X
465040	Computer Science with Programming/ Coding Emphasis 4	0.5	X	X	X	X
465330	Mobile Application Development 3	0.5	X	X	X	X
465340	Mobile Application Development 4	0.5	X	X	X	X
465130	Computer Science with Networking/ Hardware Emphasis 3	0.5	X	X	X	X
465140	Computer Science with Networking/ Hardware Emphasis 4	0.5	X	X	X	X
465530	Robotics 3	0.5	X	X	X	X
465540	Robotics 4	0.5	X	X	X	X
465230	Computer Science with Information Security 3	0.5	X	X	X	X
465240	Computer Science with Information Security 4	0.5	X	X	X	X

Advanced Coding Courses	Maximum of 1 credit from the following					
Course Code	Core Course	Credit	9th	10th	11th	12th
465050	Advanced Programming 1	0.5	X	X	X	X
465060	Advanced Programming 2	0.5	X	X	X	X
465650	Advanced Programming: Game Design 1	0.5	X	X	X	X
465660	Advanced Programming: Game Design 2	0.5	X	X	X	X
565110	College Board Advanced Placement (AP) Computer Science A 1	0.5	X	X	X	X
565120	College Board Advanced Placement (AP) Computer Science A 2	0.5	X	X	X	X
565210	International Baccalaureate (IB) Computer Science SL 1	0.5	X	X	X	X
565220	International Baccalaureate (IB) Computer Science SL 2	0.5	X	X	X	X
565310	International Baccalaureate (IB) Computer Science HL 1	0.5	X	X	X	X
565320	International Baccalaureate (IB) Computer Science HL 2	0.5	X	X	X	X
Advanced Network/Hardware Courses	Maximum of 1 credit from the following					
Course Code	Core Course	Credit	9th	10th	11th	12th
465150	Advanced Networking 1	0.5	X	X	X	X
465160	Advanced Networking 2	0.5	X	X	X	X
Advanced Information Security Courses	Maximum of 1 credit from the following					
Course Code	Core Course	Credit	9th	10th	11th	12th
465250	Advanced Information Security 1	0.5	X	X	X	X
465260	Advanced Information Security 2	0.5	X	X	X	X
Internship and Independent Study Options	Maximum of 1 credit from the following					
Course Code	Core Course	Credit	9th	10th	11th	12th
465910	Computer Science Independent Study	0.5	X	X	X	X
465920	Computer Science Independent Study	0.5	X	X	X	X
465950	Computer Science Internship	0.5	X	X	X	X
465960	Computer Science Internship	0.5	X	X	X	X
Concurrent Credit Options	Maximum of 3 credits from the following					
Course Code	Core Course	Credit	9th	10th	11th	12th
565910, 565920, 565930, 565940, 565950, 565960, 565970, 565980, 565990	Concurrent Credit Computer Science	1 each	X	X	X	X
565810, 565820, 565830, 565840, 565850, 565860, 565870, 565880, 565890	Weighted Concurrent Credit (only to be used by ADE approval)	1 each	X	X	X	X
Electives	Maximum of 1 credit from the following					
Course Code	Elective Courses	Credit	9th	10th	11th	12th
492140	Advanced Database Applications	0.5	X	X	X	X
492450	Advanced Spreadsheet Applications	0.5	X	X	X	X
493860	Internship	1			X	X
492670	Web Technologies	1	X	X	X	X

MIDDLE LEVEL COURSES

Please See ADE CS Activity Codes **App Creators (PLTW)**

Credit: 0 Semester Course-Grade Levels: 7-8

This unit will expose students to computer science as a means of computationally analyzing and developing solutions to authentic problems through mobile app development, and will convey the positive impact of the application of computer science to other disciplines and to society.

399110 Automation and Robotics (AR)

Credit: 0 Semester Course - Grade Levels: 7-8

Students trace the history and development of automation and robotics. They learn about structures, energy transfer, and machine automation. They also find out what they need to study in high school and beyond to prepare for careers in engineering.

Please See ADE CS Activity Codes **Computer Science For Innovators And Makers**

Credit: 0 Semester Course - Grade Levels: 7-8

Throughout the unit, students will learn about programming for the physical world by blending hardware design and software development, allowing students to discover computer science concepts and skills by creating personally relevant, tangible, and shareable projects.

399180 Career Medical Detectives (MD)

Credit: 0 Semester Course - Grade Levels: 7-8

Students play the role of real-life medical detectives as they analyze genetic testing results to diagnose disease and study DNA evidence found at a “crime scene.” They solve medical mysteries through hands-on projects and labs, investigate how to measure and interpret vital signs, and learn how the systems of the human body work together to maintain health.

399120 Design and Modeling (DM)

Credit: 0 Semester Course - Grade Levels: 7-8

Students will learn the uses of solid modeling. They will be introduced to the design process and shown how this technology has influenced their lives. Using design briefs or abstracts, students create models and documentation to solve problems.

399310 Energy and the Environment (EE)

Credit: 0 Semester Course - Grade Levels: 7-8

Students investigate the impact of energy on their lives and the environment. Alternative energy sources are evaluated and used to reduce energy consumption through energy efficiency and sustainability.

399150 ETE 1 (Introduction to Engineering and Technology, 7-8th grade)

Credit: 0 Semester Course - Grade Levels: 7-8

Students will develop an understanding of the history of technology involving information and communication, construction, manufacturing, energy, power, transportation and how they can be used to solve technological problems.

399160 ETE 2 (Fundamentals of Engineering and Technology, 7-8th grade)

Credit: 0 Semester Course - Grade Levels: 7-8

Students will further their understanding of the of impact technology has on the modern world involving information and communication, construction, manufacturing, energy, power, transportation and how they can be used to solve technological problems.

399250 Flight and Space (FS)

Credit: 0 Semester Course - Grade Levels: 7-8

The history of aerospace comes to life through hands-on activities and research as students explore the science behind aeronautics. Students use their knowledge to build, design, and test airfoil. Simulation software is used to provide space travel experience.

399300 Green Architecture (GA)

Credit: 0 Semester Course – Grade Levels: 7-8

The concept of “being green” is introduced to the next generation of designers and builders. Students learn about architectural styles and sustainability construction plans. An environmentally friendly home is designed using 3D architecture software.

399130 The Magic of Electrons (ME)**Credit: 0 Semester Course - Grade Levels: 7-8**

Students use hands-on projects to explore the science of electricity including the behavior and parts of atoms using sensing devices. Knowledge and skills are acquired in basic circuitry design and the impact of electricity on our lives.

399140 The Science of Technology (ST)**Credit: 0 Semester Course - Grade Levels: 7-8**

How science has affected technology throughout history is traced as students learn to apply the concepts in physics, chemistry and nanotechnology to STEM activities and projects.

HIGH SCHOOL COURSES**494980 Aerospace Engineering (AE)****Credit: 1 Grade Levels: 11-12**

Through hands-on engineering projects developed with NASA, Aerospace Engineering students learn about aerodynamics, astronautics, space-life sciences, and systems engineering, including the study of intelligent vehicles like the Mars rovers Spirit and Opportunity.

494710 Architectural/CAD I (Core Course)**Credit: 1 Grade Levels: 9-12**

Architectural/CAD I focuses on the knowledge and skills required to plan and prepare scale pictorial interpretations of plans and design concepts for residential buildings. Emphasis is given to the development of competencies related to solving drafting and design problems that require the individual to understand and apply a wide range of technical knowledge and critical thinking skills. The course is designed to allow the student to produce architectural drawings as traditional drawings or as computer-aided drawings.

494730 Architectural/CAD II**Credit: 1 Grade Levels: 10-12**

Architectural/CAD II focuses on the knowledge and skills required to plan and prepare scale pictorial interpretations of plans and design concepts for residential buildings. Emphasis is given to the development of real world experiences in applying the application of architectural drafting standards. The course is designed to allow the student to produce drawings as traditional drawings or advanced use of various CAD software to produce drawings.

494720 Architectural/CAD Lab**Credit: 1 Grade Levels: 9-12**

This production-based program is designed to allow for the development of skills and knowledge needed to execute a comprehensive architectural product.

495030 Biomedical Innovations (BI) – Capstone Course**Credit: 1 Grade Levels: 11-12**

Students apply their knowledge and skills to answer questions and solve problems related to the biomedical sciences. In this capstone course, they may consult with a mentor or advisor from a university, hospital, physician's office, or industry. Students are expected to present the results of their work to an adult audience, which may include representatives from the local healthcare or business community or the school's Partnership Team.

495440 Civil Engineering and Architecture (CEA)**Credit: 1 Grade Levels: 11-12**

This course builds upon the computer solid modeling design skills developed in Introduction to Engineering Design. Students will be presented with design problems that require the use of computer-aided drafting skills to develop solutions to the problems.

495450 Computer-Integrated Manufacturing (CIM)**Credit: 1 Grade Levels: 11-12**

This course builds upon the computer solid modeling design skills developed in Introduction to Engineering Design. Students will be presented with design problems that require the use of Inventor to develop solutions to the problems.

495460 Digital Electronics (DE)**Credit: 1 Grade Levels: 10-12**

Digital Electronics is a course of study in applied digital logic. The course is patterned after the first-semester course in digital electronics taught in two- and four-year colleges. Students will study the application of electronic logic circuits and devices and apply Boolean logic to the solution of problems.

494700 Drafting & Design (Core Course)**Credit: 1 Grade Levels: 9-12**

Drafting and Design focuses on the basic knowledge and skills required to produce engineering and architectural drawings. Emphasis is given to the development of competencies related to the use of drafting equipment, the production of beginning level engineering drawings and the production of beginning level architectural drawings.

494740 Engineering/CAD I**Credit: 1 Grade Levels: 9-12**

Engineering/CAD I focus on the knowledge and skills required to produce advanced level engineering drawings. Emphasis is given to the development of competencies related to solving drafting and design problems that require the individual to understand and apply a wide range of technical knowledge and critical-thinking skills. The course is designed to allow the student to produce drawings of mechanical parts, engineering diagrams, electronics, etc. as traditional drawings or as computer-aided drawings.

494760 Engineering/CAD II**Credit: 1 Grade Levels: 10-12**

Engineering/CAD II focuses on the knowledge and skills required to produce advanced level engineering drawings. Emphasis is given to putting into practice real world experience related to solving problems that require the individual to understand and use various engineering software and techniques.

494750 Engineering/CAD Lab**Credit: 1 Grade Levels: 9-12**

This production-based program is designed to allow for the development of skills and knowledge needed to execute a comprehensive engineering product.

495470 Engineering Design and Development – (CAPSTONE)**Credit: 1 Grade Levels: 11-12**

In this course, students will work in teams of two to four to design and construct the solution to an engineering problem, applying the principles developed in the preceding four courses.

494010 ETE 1 (Introduction to Engineering and Technology, 9th grade)**Credit: .5 Grade Level: 9**

Students will develop an understanding of the history of technology involving information and communication, construction, manufacturing, energy, power, transportation and how they can be used to solve technological problems.

494020 ETE 2 (Fundamentals of Engineering and Technology, 9th grade)**Credit: .5 Grade Levels: 9**

Students will further their understanding of the of impact technology has on the modern world involving information and communication, construction, manufacturing, energy, power, transportation and how they can be used to solve technological problems.

495010 Human Body Systems (HBS)**Credit: 1 Grade Levels: 9-12**

Students engage in the study of the processes, structures, and interactions of the human body systems. Important concepts in the course include: communication, transport of substances, locomotion, metabolic processes, defense, and protection. The central theme is how the body systems work together to maintain homeostasis and good health.

493960 Innovations in Science and Technology I**Credit: 1 Grade Levels: 9-12**

This is a contextual-based course that introduces students to the core fundamental concepts of science and technology through authentic projects. Through these projects, students will develop an understanding of the relationship between the physical, biological and social world. Students will gain an understanding of the differences between science and technology, and learn that technology is a process for applying science

493970 Innovations in Science and Technology II**Credit: 1 Grade Levels: 9-12**

This course uses the concepts learned from Course 1 to further develop students' problem-solving strategies and skills needed by the 21st-century workforce. Students will continue to explore emerging technologies and techniques in the context of addressing authentic projects.

493980 Innovations in Science and Technology III**Credit 1 Grade Levels 10-12**

This course will examine the past, present and future impact of science and technology on culture, society and the environment. Students will explore how their predecessors worked to solve some problems that still exist today, and examine the potential of using modern technology to solve those problems.

493990 Innovations in Science and Technology IV**Credit 1 Grade Levels 10-12**

This course will allow students to brainstorm, use invention, innovation, creativity, predictive analysis and use technology to solve real-world problems. Dimensions covered will include research and development, troubleshooting, experimentation, design failures, patents and trademarks, and design under constraints.

495480 Introduction to Engineering Design (IED)**Credit: 1 Grade Levels: 9-12**

Introduction to Engineering Design is an introductory course that develops students' problem-solving skills, with emphasis placed on the concept of developing a 3D model or solid rendering of an object. Students focus on the application of visualization processes and tools provided by modern, state-of-the-art computer hardware and software.

495020 Medical Interventions (MI)**Credit: 1 Grade Levels: 9-12**

Students investigate a variety of interventions involved in the prevention, diagnosis and treatment of disease as they follow the lives of a fictitious family. The course is a "How-To" manual for maintaining overall health and homeostasis in the body as students explore how to prevent and fight infection; how to screen and evaluate the code in human DNA; how to prevent, diagnose and treat cancer; and how to prevail when the organs of the body begin to fail.

465310 Mobile Application Development Level 1**Credit: .5 Grade Levels: 9-12**

This course formerly fell under CTE supervision. It is now part of the Arkansas Computer Science course grid.

465320 Mobile Application Development Level 2**Credit: .5 Grade Levels: 9-12**

This course formerly fell under CTE supervision. It is now part of the Arkansas Computer Science course grid.

465330 Mobile Application Development Level 3**Credit: .5 Grade Levels: 9-12**

This course formerly fell under CTE supervision. It is now part of the Arkansas Computer Science course grid.

465340 Mobile Application Development Level 4**Credit: .5 Grade Levels: 9-12**

This course formerly fell under CTE supervision. It is now part of the Arkansas Computer Science course grid.

495000 Principles of the Biomedical Sciences (PBS)**Credit: 1 Grade Levels: 9-12**

Student work involves the study of human medicine, research processes, an introduction to bioinformatics, and the use of computer science, mathematics, and information theory to model and analyze biological systems. Students investigate the human body systems and various health conditions including heart disease, diabetes, sickle-cell disease, hypercholesterolemia, and infectious diseases.

495490 Principles of Engineering (POE)**Credit: 1 Grade Levels: 9-12**

Principles of Engineering is a broad-based survey course designed to help students understand the field of engineering and engineering technology and its career possibilities. Students will develop engineering problem-solving skills that are involved in postsecondary education programs and engineering careers. They will explore various engineering systems and manufacturing processes.

See page 3 of this document **Unmanned Aerial Systems (UAS) I**

Credit: 1 Grade Levels: 9-12

Unmanned Aerial Systems spans the spectrum from the basics of aviation, safety and principles of flight to design and manufacturing, industry specific applications, troubleshooting and maintenance, regulations, and mission planning, execution and debriefing.

See page 3 of this document **Unmanned Aerial Systems (UAS) II**

Credit: 1 Grade Levels: 10-12

Unmanned Aerial Systems II continues building on the foundational skills learned in UAS I. Students can earn the FAA 107 Remote Pilot Certificate by the end of the second level.

See page 3 of this document **Unmanned Aerial Systems (UAS) III**

Credit: 1 Grade Levels: 11-12

Unmanned Aerial Systems III helps students prepare for drone-related career and entrepreneurial opportunities while serving as a capstone lab-based course.

See page 3 of this document **Unmanned Aerial Systems (UAS) Flex**

Credit: 1 Grade Levels: 9-12

The UAS Flex course provides a foundational overview of the basics of aviation, safety and principles of flight, troubleshooting and maintenance, regulations, and mission planning, execution and debriefing as in UAS I; with the primary difference being the course is built around the use of a pre-made drone. Students will not be prepared to enter UAS II, or be prepared to take the FAA 107 exam. This course is an approved elective in multiple CTE pathways, and students will explore the industrial applications of drones in the specific pathway in which it is applied.

Operational Guide for Special Populations – Special Needs

Definitions and policies related to serving students who are members of “special populations” (special needs) must be in compliance with the Carl D. Perkins Vocational and Technical Education Act of 1998 (Public Law 105.332) or its successor.

The term “special populations” includes individuals with disabilities, educationally and economically disadvantaged individuals (including foster children), individuals of limited English proficiency, individuals who participate in programs designed to eliminate sex bias, and individuals in correctional institutions.

Each student identified as disabled and/or handicapped under the guidelines of the Special Education Section of ADE and admitted to career and technical education program(s) must have an Individualized Education Plan (IEP) developed prior to placement in the program.

Each student who meets the criteria for identification as a member of special populations shall be provided with the vocational assessment, guidance, counseling, and career development in order to ensure his/her success in the career focus program of study.

Transition services as well as supplemental/support services shall be provided as needed to assist the student in making the transition from school to employment.

METHODS OF ADMINISTRATION IN CAREER AND TECHNICAL EDUCATION

The Arkansas Department of Career Education is responsible to oversee the Methods of Administration (MOA) program in Career and Technical Education. The Office of Special Populations is responsible for conducting targeted compliance reviews of selected secondary and postsecondary schools that provide career and technical education in the State of Arkansas.

The purpose of the Methods of Administration (MOA) program is to ensure that all students, regardless of race, color, national origin, sex, or disability, have equal access to high-quality career and technical education programs. Through its Methods of Administration authority, OCR oversees the civil rights compliance programs of state agencies that administer career and technical education. The state agencies' responsibilities under the MOA program are set out in the *Guidelines for Eliminating Discrimination and Denial of Services on the Basis of Race, Color, National Origin, Sex, and Handicap in Vocational Education Programs (Guidelines)* (Appendix B of the Title VI regulation). These responsibilities include: conducting targeted compliance reviews of selected secondary and postsecondary schools that provide career and technical education; securing corrective action when civil rights violations are found; and periodically reporting civil rights activities and findings to OCR. Partnership and collaboration between OCR and the state agencies has been an important underpinning of the MOA program.

ARCareerEd will continue to inform school administration of current policies regarding gender equity, discrimination and nontraditional training with the intention that these policies will be infused into the local curriculum and instruction. Onsite monitoring of selected programs is required by federal law. The Methods of Administration Office will visit secondary and postsecondary education institutions offering CTE courses as outlined in the state plan to monitor compliance with ADA, 504, IDEA, Title IX, and the Civil Rights Act rules and regulations, as defined by the federal government. (CTE Policies/Procedures)

ADAPTIVE EQUIPMENT FOR CTE STUDENTS WITH DISABILITIES

Adaptive Equipment for Individuals with Disabilities Enrolled in Funded Vocational Education Programs can be obtained through Appropriation 681, by:

1. The requesting school must get a referral for the student from an assigned special education consultant to assist with ordering the adaptive equipment.
2. The superintendent or school principal in which the student is enrolled may then request services through contacting:

Requests for Adaptive Equipment Applications may be submitted by calling the Office of Special Populations at 501-682-1800.

3. The request for services must contain the following information:
 - Name of student
 - Age of student
 - Disability and need for adaptive equipment
 - Vocational program(s) and grade in which the student is enrolled
 - Equipment requested (if known)
 - Assistance in identifying appropriate equipment (if known)
 - Appropriate cost of equipment including shipping and taxes
 - The written evaluation and recommendation of the Special Education Consultant
4. The Office of Special Populations will send an electronic Application for Adaptive Equipment to be signed by the authorized agent. The information listed above will be required with the application. Upon approval, the district/school will be notified and a Memorandum of Understanding will be issued for the equipment purchase. (If the Office of Special Populations locates existing appropriate equipment, this equipment may be provided in lieu of funding.)
5. The Adaptive Equipment may be purchased through the Educational Cooperative or requesting school district. The Office of Special Populations will reimburse the Co-op or LEA upon receipt of the reimbursement report form. The reimbursement will not exceed the allocation approved for the equipment.
6. The adaptive equipment remains the property of the Office of Special Populations of the Arkansas Department of Career Education. It is subject to redistribution when no longer required by the student or similarly disabled student enrolled in funded vocational education programs within the school district or Cooperative.
7. Existing equipment may be transferred between school districts only upon written approval from the Office of Special Populations.

JOBS FOR ARKANSAS GRADUATES (JAG)

Program Description

Jobs for Arkansas Graduates is a broad based School-to-Work program designed to assist students whose ability to successfully graduate from high school and obtain meaningful employment is in jeopardy. The program's goal is to identify students with a need for modest interventions in order to ensure graduation (or GED) and to prepare them for workplace success. The JAG program provides one year of follow-up to monitor the student's outcomes through data recording of graduation dates, civil and military job placement, career, and college success.

Course Description

JAG may be utilized in any program of study. JAG can count as credit toward a student's career focus/major. The program's goal is to ensure student graduation (or GED) and prepare students for workplace success whether their career begins immediately upon high school graduation, includes entry into military service, or requires them to complete postsecondary education/training.

Course Content

The course will consist of the following areas:

1. Career Development Skills
2. Job Attainment Skills
3. Job Survival Skills
4. Basic Skills
5. Leadership and Self-development Skills
6. Life Survival Skills
7. Workplace Skills

The JAG Model requires the completion of the 37 core competencies. The complete curriculum contains 87 competencies. Arkansas requires the completion of 40 (including core) competencies for School-to-Career (senior only) participants and 50 (including core) competencies for Dropout Prevention (multiyear) participants.

The model has 10 components, which must be maintained by the state affiliate.

- Oversight Board
- Program Management
- Program Staff
- Participant Selection
- Student Load
- Career Association
- Competency Attainment
- Employer Marketing and Job Development
- Follow-up Services
- National Database Participation

There are various ways to use the model:

- Middle School At-Risk Career Development (7th & 8th Grade)
- High School Dropout Prevention (9th – 12th Grade – Multi-Year Program)
- School to Career (12th Grade only - Senior Only)
- Dropout Recovery (7th – 9th Grade)
- Alternative Education Program, with coinciding traditional JAG program (7th – 12th Grade)

There are five primary performance goals of the School-to-Career and Dropout Prevention Applications that a program should strive to attain to reveal successful administration of the program. The Office of Special Populations and Jobs for America's Graduates national office monitor the following five indicators. Programs that attain the '5 of 5' status are recognized at both state and national levels.

- 90% graduation/GED rate;
- 80% overall success rate at the end of 12 months after graduation, with participants either
- employed in a job leading to a career, in the military, or enrolled in a postsecondary education or training, or a combination of work and postsecondary education;
- 60% of graduates are employed;
- 60% of employed graduates are in full-time jobs leading to careers; and
- 80% of the graduates are employed full-time or are combining work and school. These goals are to be achieved by the third year of operation.

Teacher Qualifications

The "JAG Specialist" is to be secondary certified in Career and Technical Education or any core academic area and endorsed through the completion of program management training developed and approved by the Department of Career Education. Training includes New Specialist Training (one to two days) and National Data Management System training (one day). Training leads to the 413 Special Populations endorsement. Registration can be found on the ARCareerEd website under Professional Development.

Teacher Contract Length

It is strongly recommended that, during the first year of operation, the specialist be employed on a contract of a minimum of 215 days. It also is strongly recommended that during each subsequent year, the specialist be employed on a contract of a minimum of 225 days. Arkansas JAG recommends that the specialist be provided one period for Data Entry and Employer Marketing/Job Development for every 25 in school participants.

The model requires 12 months of follow-up after graduation, which means monthly contact with participant beginning the month of June following graduation and at least six contacts with the participant's employer/school/military recruiter.

Professional Development Activities

Teachers are encouraged to participate in all in-service training workshops, quarterly meetings, JAG National Training Seminar, and the following professional organizations:

1. Association of Career of Career & Technical Educators (Special Populations Division)
2. National Association of Vocational Education Special Needs Personnel
3. Arkansas Association of Vocational Education Special Needs Personnel
4. Arkansas Career Development Association

Funding

New program start-up equipment funds are available. Districts may be eligible for Division of Workforce Service grants for high poverty areas. Corporate start-up grants are often available.

Class Grade Level

JAG is designed to assist students deemed at-risk or in need of intervention to attain graduation and attain career success. JAG courses can begin in the 7th or 9th grade with the Middle School curriculum. A student can continue in a JAG course through the Multi-Year program from 9th to 12th grade. A Senior Only program may be added to an existing program, in order to assist 12th grade students from school to career. The district can determine how the program is implemented within these guidelines.

Eligible Students

Career and Technical students with two or more identified barriers may apply for acceptance into the JAG class. A JAG class roster typically has an average of five barriers. Students may be identified by the school advisory committee as eligible for the program due to existing barriers to graduation. The specialist/teacher or administrator identifies a student's barriers prior to placement into the program. JAG students should have an identified career and technical focus/major and have completed at least one unit and be enrolled in a second unit of the identified career focus/major. Alternative schools that do not offer or have access to career and technical education must request a waiver.

Class Size and Credits

"Standards of Accreditation", *Arkansas Public Schools* states: "in grades seven through twelve, a teacher shall not be assigned more than one hundred fifty (150) students daily and an individual class shall not exceed thirty (30) students, provided that, in exceptional cases or for courses that lend themselves to large group instruction, these ratios may be increased." (JAG is not an exceptional case). Large JAG classes have proven to be less practical and effective because they place limitations on the types and quality of hands-on, individualized, or other class activities.

The JAG model requires 35-45 students be the maximum in the in-school phase. The JAG program may encompass several class periods, thus enforcing the Standards of Accreditation for class size. Programs in alternative schools can request a waiver to lower the student load. All students in the JAG class must be recorded in the JAG electronic data management system roster in order to hold the integrity of the Jobs for America's Graduates guidelines.

Class periods shall conform to the minimum class hours established by the Standards for Accreditation of Public Schools and North Central Association (NCA):
(NCA: 120 hours = 1 unit; 60 hours = ½ unit)

One unit of credit per year is to be given for JAG participants in the High School program. Depending on the application of the model and the particular need or risk, a student may be identified for placement in the JAG program

for multiple years, starting in Middle School. JAG may be utilized as a related option of any program of study. JAG is not a stand-alone program of study or career focus/major.

Work-Based Learning

Part-time employment is not a requirement of the JAG program, but credit can be given at the discretion of the individual school district using the teacher supervised JAG Work-Based Learning course code. Simultaneous enrollment in JAG class is required for enrollment in JAG Work-Based Learning. Schools that grant credit for work-based learning shall follow the course credit guidelines for the ARCareerEd Internship program.

Advisory Committee

Sites are to develop a local advisory board with representatives of groups such as educational providers (e.g., adult education, GED instructors, community college representatives, and School-to-Work partnerships), community agencies (e.g., homeless shelters, mental health services, workforce development, and juvenile officers), special education instructors, transition services, and/or career coaches.

The selection committee, a subcommittee of the local advisory board, shall be local and accept responsibility for program participants targeted for services. The selection committee shall be comprised of selected representatives of the local school system (e.g., high school administrators, counselors, vocational faculty, and academic faculty).

JAG Career Association

The JAG Career Association embodies a fundamental purpose of the JAG program: to provide motivation and practical strategies to help young people to succeed both in school and on the job.

The Career Association is a student-led organization for career-minded students who are interested in preparing themselves to enter the work force and are enrolled in a program that is affiliated with the Jobs for America's Graduates National Network. Each student enrolled in the local JAG program is automatically a member of the Career Association.

Three levels exist in the Career Association – national, state, and local chapter (the JAG program in your school).

JAG believes that programs with successful Career Association chapters will experience a lower school dropout rate and a higher retention rate in the program. The Career Association chapter is a support system that most members need and want.

The activities of the Career Association are integral to the instructional program and should be perceived as co-curricular. Since all Career Association activities are offered to develop, practice, and refine skills necessary for personal, academic and career success, chapter activities enhance classroom learning, thus are considered co-curricular.

Local Career Association chapters provide activities to help members develop the confidence and competencies needed to stay in school through graduation and achieve a successful transition from school to the work- place. The chapter advisor (JAG Specialist) is held accountable for implementing the Career Association and using it effectively to achieve five (5) fundamental yet powerful goals of leadership development, career development, social awareness, civic awareness, and community service. JAG suggests each goal area have a committee with a Vice President or Chairperson leading that committee.

JAG Programs

JOBS FOR ARKANSAS GRADUATES PREREQUISITES	
COURSES	PREREQUISITE COURSE(S)
JAG I; JAG II; JAG Middle School	No prerequisite required
JAG Work Based Learning	Concurrent enrollment in JAG I, II, SR
JAG Senior Applications	JAG I or II
JAG Alternative Learning	No prerequisite required

Middle School Courses:

Course Code	Course Name	Credit	7 th	8 th	9 th	10 th	11 th	12 th
399290	JAG Middle School	0	X	X				
399350	JAG Middle School ALTERNATIVE	0	X	X				

This course may be taken in both 7th and 8th grades, but must receive prior approval from ARCareerEd Office of Special Populations. Traditional and Alternative Programs at one school are considered two programs.

High School Courses:

Jobs for Arkansas Graduates								
Course Code	Course Name	Credit	7th	8th	9th	10th	11th	12th
493780	JAG I (Multi-Year Program)	1			X	X	X	X
493790	JAG II (Multi-Year Program)	1				X	X	X
493770	JAG Senior Applications	1						X
493760	JAG Multi-Year ALTERNATIVE	1			X	X	X	X
493800	JAG Work-Based Learning	1			X	X	X	X

These courses may be taken in 9th – 12th grades (as indicated), but must receive prior approval from ARCareerEd Office of Special Populations. It is expected that a JAG program will expand to accommodate need among student populations. Adding a Senior Applications program requires approval for an addition to an already established JAG program. Traditional and Alternative Programs at one school are considered two programs. JAG WBL follows the course credit guidelines for the ARCareerEd Internship program.

SPECIAL POPULATIONS COURSES

Middle School Courses

399290 JAG Middle School

Credit: 0 Grade Levels: 7-8

Middle School Program serves seventh and eighth grade students. Middle school staff and administrators identify students at risk of not reaching their potential or leaving school prematurely.

399350 JAG Middle School ALTERNATIVE

Credit: 0 Grade Levels: 7-8

JAG Middle School AE Program serves grades seventh through eighth students. The program is designed to serve students in alternative learning environments. Middle school staff and administrators identify students at risk of not reaching their potential or leaving school prematurely.

High School Courses

493780 JAG Multi-Year I **Credit: 1 Grade Levels: 9-12**

JAG utilizes the National Jobs for America's Graduates model and curriculum. It is designed to assist career and technical students whose ability to successfully graduate from high school and obtain meaningful employment is in jeopardy. High school staff and administrators identify students at risk of not reaching their potential or leaving school prematurely.

493790 JAG Multi-Year II **Credit: 1 Grade Levels: 9-12**

JAG II continues the JAG curriculum and may be repeated. JAG utilizes the National Jobs for America's Graduates model. It is designed to assist career and technical students whose ability to successfully graduate from high school and obtain meaningful employment is in jeopardy. High school staff and administrators identify students at risk of not reaching their potential or leaving school prematurely.

493770 JAG Senior Applications **Credit: 1 Grade Levels: 12**

A senior-only program that focuses classroom attention on eligible high school seniors to provide support for school-to-career success. JAG utilizes the National Jobs for America's Graduates model. It is designed to assist career and technical students whose ability to successfully graduate from high school and obtain meaningful employment is in jeopardy. High school staff and administrators identify students at risk of not reaching their potential or leaving school prematurely.

493760 JAG Multi-Year ALTERNATIVE **Credit: 1 Grade Levels: 9-12**

JAG Multi-Year AE Program serves grades ninth through twelfth grade students. The program is designed to serve students in alternative learning environments. High school staff and administrators identify students at risk of not reaching their potential or leaving school prematurely.

493800 JAG Work-Based Learning **Credit: 1 Grade Levels: 9-12**

This instructor-supervised work release course includes monthly employer evaluations of participants. Employment is not a requirement of the JAG program, but credit can be given at the discretion of the individual school district. Participants should be expected to complete 180 hours of work-based learning in order to receive one credit-with a maximum of four credits for completing 720 hours of work study within a consecutive two-year period. WBL may be utilized in both traditional and alternative environments.

Operational Guide for Trade and Industry

CAREER CLUSTER: ARCHITECTURE AND CONSTRUCTION	
PATHWAY	PROGRAM OF STUDY
Construction	Construction Technology
	Heating, Ventilation, Air Conditioning/Refrigeration

CAREER CLUSTER: ARTS, A/V TECHNOLOGY AND COMMUNICATIONS	
PATHWAY	PROGRAM OF STUDY
A/V Technology & Film	A/V Tech & Film
Journalism and Broadcasting	Radio Broadcasting
Telecommunications	Television Production
Visual Arts	Advertising and Graphic Design
	Photography

CAREER CLUSTER: GOVERNMENT AND PUBLIC ADMINISTRATION	
PATHWAY	PROGRAM OF STUDY
National Security	Air Force JROTC
	Army JROTC
	Marines JROTC
	Navy JROTC

CAREER CLUSTER: HEALTH SCIENCE	
PATHWAY	PROGRAM OF STUDY
Therapeutic Services	Medical Professions
	Sports Medicine

CAREER CLUSTER: LAW, PUBLIC SAFETY, CORRECTIONS AND SECURITY	
PATHWAY	PROGRAM OF STUDY
Law Enforcement Services	Criminal Justice

CAREER CLUSTER: MANUFACTURING	
PATHWAY	PROGRAM OF STUDY
Maintenance, Installation, and Repair	Industrial Equipment Technologies
	Major Appliance Technology
Manufacturing Production	Electronics
	Furniture Manufacturing
	Precision Machining Technology
	Welding
	Advanced Manufacturing

CAREER CLUSTER: TRANSPORTATION, DISTRIBUTION, AND LOGISTICS	
PATHWAY	PROGRAM OF STUDY
Facility & Mobile Equipment Maintenance & Repair	Aviation Technology
	Medium/Heavy Truck Technology
	Power Equipment Technology
	Automotive Collision Repair Technology
	Automotive Service Technology

Career and Technical Student Organization

SkillsUSA or HOSA shall be an integral part of each instructional program respectively and shall follow its specific guidelines, goals, and objectives. Students will participate in activities of the Arkansas state association and its respective national CTSO.

National SkillsUSA <https://www.skillsusa.org/>

National HOSA <http://www.hosa.org/>

Trade and Industry Laboratory Safety

Space and special equipment for the program areas of Trade and Industry are varied and unique. Contact with the Trade and Industry staff in the Department of Career Education is very important in the planning process. Safety should be of the utmost consideration at all times in planning a facility and locating equipment. Sufficient electrical power should be included to support major pieces of equipment in the lab, including a sufficient number of electrical outlets.

A student wash up area should be provided. Major consideration should be given to proper exhaust and filtration of harmful fumes/dust etc. The laboratory should be zoned and color coded identifying specific work areas and pedestrian walkways. Large open areas for instructional activities should be provided.

Trade and Industry programs are based on real world tasks and equipment usage that can sometimes be hazardous; therefore student safety must be of the utmost concern.

Caution must be exercised and enrollment must be limited so that an overcrowded situation does not occur. The specifications for the laboratory areas are major priorities to ensure student safety. Please refer to the website listed at the beginning of the CTE Operational Guide section for these specifications.

Pathways and Programs of Study by Career Cluster

CAREER CLUSTER: ARCHITECTURE & CONSTRUCTION

Architecture & Construction: Designing, planning, managing, building, and maintaining physical structures and the larger built environment, including roadways and bridges and industrial, commercial, and residential facilities and buildings.

Pathway		Program of Study						
Construction		Construction Technology						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
494480	Introduction to Skilled Trades	1			X	X	X	X
494460	Carpentry	1			X	X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12th
494860	Architecture and Construction Lab	1			X	X	X	X
494470	Cabinetry	1			X	X	X	X
494500	Electrical	1			X	X	X	X
495100	HVACR I				X	X	X	X
493840	Mechanical, Plumbing & Electrical Systems	1					X	X
494510	Plumbing	1			X	X	X	X
Non-Trade and Industry Courses								
491410	Agricultural Structural Systems	1					X	X
494710	Architecture / CAD 1	1			X	X	X	X
494700	Drafting and Design	1			X	X	X	X
493860	Internship	1					X	X
491040	Agricultural Electricity	.5					X	X
493140	Housing & Interior Design (FACS)	.5			X	X	X	X

Pathway		Program of Study						
Construction		Heating, Ventilation, Air Conditioning/Refrigeration						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
495100	HVACR I	1			X	X	X	X
495110	HVACR II	1				X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12th
See page 3 of this document	HVACR Lab	1			X	X	X	X
494470	Cabinetry	1			X	X	X	X
494460	Carpentry	1			X	X	X	X
494500	Electrical	1			X	X	X	X
493840	Mechanical, Plumbing & Electrical Systems	1					X	X
494510	Plumbing	1			X	X	X	X
Non-Trade and Industry Courses								
491410	Agricultural Structural Systems	1				X	X	X
494710	Architecture / CAD 1	1			X	X	X	X
494700	Drafting and Design	1			X	X	X	X
493860	Internship	1					X	X
491040	Agricultural Electricity	.5				X	X	X
493140	Housing & Interior Design (FACS)	.5			X	X	X	X

CAREER CLUSTER: AUDIO/VIDEO TECHNOLOGY & COMMUNICATIONS

Arts, Audio/Video Technology & Communications: Designing, producing, exhibiting, performing, writing, and publishing multimedia content, including visual and performing arts and design, journalism, and entertainment services.

Pathway		Program of Study						
Audio/Video Tech & Film		Audio/Video Tech & Film						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
493640	Fundamentals of Audio/Video Tech & Film	1			X	X	X	X
493650	Intermediate Audio/Video Tech & Film	1				X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12th
493660	Advanced Audio/Video Tech & Film	1					X	X
493670	Media Communications Lab	1			X	X	X	X
493860	Internship	1					X	X

Pathway		Program of Study						
Journalism and Broadcasting		Radio Broadcasting						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
493380	Fundamentals of Radio	1			X	X	X	X
493390	Intermediate Radio	1				X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12th
493400	Advanced Radio	1					X	X
493410	Radio Lab	1			X	X	X	X
493860	Internship	1					X	X

Pathway		Program of Study						
Telecommunications		Television Production						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
493420	Fundamentals of Television	1			X	X	X	X
493430	Intermediate Television	1				X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12th
493440	Advanced Television	1					X	X
493450	Television Lab	1			X	X	X	X
493860	Internship	1					X	X

Pathway		Program of Study						
Visual Arts		Advertising and Graphic Design						
Course Code	Core Course	Credit	7th	8th	9th	10th	11 th	12 th
494150	Fundamentals of Advertising and Graphic Design	1			X	X	X	X
494170	Intermediate Advertising and Graphic Design	1				X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12 th
494130	Advanced Advertising and Graphic Design	1					X	X
494160	Advertising and Graphic Design Lab	1			X	X	X	X
493860	Internship	1					X	X

Pathway		Program of Study						
Visual Arts		Photography						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
494350	Fundamentals of Photography	1			X	X	X	X
494370	Intermediate Photography	1				X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12 th
494380	Advanced Photography	1					X	X
494360	Photography Lab	1			X	X	X	X
Non-Trade and Industry courses								
494710	Architecture / CAD 1	1			X	X	X	X
493860	Internship	1					X	X

CAREER CLUSTER: GOVERNMENT & PUBLIC ADMINISTRATION

Government & Public Administration: Executing governmental functions to include governance; national security; Foreign Service; planning; revenue and taxation; regulation; and management and administration at the local, state, and federal levels.

Pathway		Program of Study						
National Security		Air Force JROTC						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
495760	Air Force JROTC I	1			X	X	X	X
495770	Air Force JROTC II	1				X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12 th
495780	Air Force JROTC III	1					X	X
495880	Air Force JROTC IV	1						X
480950	JROTC Health	1			X	X	X	X
485950	JROTC Physical Education	1			X	X	X	X

Pathway		Program of Study						
National Security		Army JROTC						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
495790	Army JROTC I	1			X	X	X	X
495800	Army JROTC II	1				X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12 th
495810	Army JROTC III	1					X	X
495890	Army JROTC IV	1						X
480950	JROTC Health	1			X	X	X	X
485950	JROTC Physical Education	1			X	X	X	X

Pathway		Program of Study						
National Security		Marine JROTC						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
495820	Marine JROTC I	1			X	X	X	X
495830	Marine JROTC II	1				X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12 th
495840	Marine JROTC III	1					X	X
495900	Marine JROTC IV	1						X
480950	JROTC Health	1			X	X	X	X
485950	JROTC Physical Education	1			X	X	X	X

Pathway		Program of Study						
National Security		Navy JROTC						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
495850	Navy JROTC I	1			X	X	X	X
495860	Navy JROTC II	1				X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12 th
495870	Navy JROTC III	1					X	X
495910	Navy JROTC IV	1						X
480950	JROTC Health	1			X	X	X	X
485950	JROTC Physical Education	1			X	X	X	X

CAREER CLUSTER: HEALTH SCIENCE

Health Science: Planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.

PATHWAY		PROGRAM OF STUDY						
Therapeutic Services		Medical Professions						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
495350	Foundations of Health Care	1			X	X	X	X
+								
495300	Human Anatomy & Physiology	1			X	X	X	X
Or								
424030	Anatomy/Physiology	1			X	X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12 th
495370	Abnormal Psychology	.5			X	X	X	X
494140	First Responder	1			X	X	X	X
495320	Human Behavior & Disorders	.5			X	X	X	X
495340	Introduction to Medical Professions*	.5			X	X	X	X
495380	Introduction to Medical Professions Expanded	.5			X	X	X	X
495310	Medical Clinical Internship/Specialization	1					X	X
495230	Medical Clinical Internship/Specialization (.5 Credit)	.5					X	X
495240	Medical Math	1			X	X	X	X
495330	Medical Procedures*	.5			X	X	X	X
495390	Medical Procedures Expanded	.5			X	X	X	X
495360	Medical Terminology	.5			X	X	X	X
495290	Pathology	.5			X	X	X	X
495280	Pharmacy Technology Fundamentals	1			X	X	X	X
Non-Trade and Industry courses								
495030	Biomedical Innovations (PLTW)	1			X	X	X	X
495010	Human Body Systems (PLTW)	1			X	X	X	X
492690	Medical Office Management (BUS)	1			X	X	X	X
495020	Medical Interventions (PLTW)	1			X	X	X	X
493200	Nutrition and Wellness (FACS)	.5			X	X	X	X
493860	Internship	1					X	X
See Page 3 of This Document	Certified Nursing Assistant (CNA) Program	.5				X	X	X

*Will be discontinued after 2018-2019 School Year (Replaced by Foundations of Health Care)

PATHWAY		PROGRAM OF STUDY						
Therapeutic Services		Sports Medicine						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
494050	Foundations of Sports Medicine	1			X	X	X	X
+								
495300	Human Anatomy & Physiology	1			X	X	X	X
or								
424030	Anatomy/Physiology	1			X	X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12 th
494070	Sports Medicine Injury Assessment	1				X	X	X
495370	Abnormal Psychology	.5			X	X	X	X
494140	First Responder	1			X	X	X	X
495320	Human Behavior & Disorders	.5			X	X	X	X

495340	Introduction to Medical Professions*	.5			X	X	X	X
495380	Introduction Medical Professions Expanded	.5			X	X	X	X
495310	Medical Clinical Internship/Specialization	1					X	X
495230	Medical Clinical Internship/Specialization (.5 Credit)	.5					X	X
495240	Medical Math	1			X	X	X	X
495330	Medical Procedures*	.5			X	X	X	X
495390	Medical Procedures Expanded	.5			X	X	X	X
495360	Medical Terminology	.5			X	X	X	X
495290	Pathology	.5			X	X	X	X
495280	Pharmacy Technology Fundamentals	1			X	X	X	X
Non-Trade and Industry courses								
495030	Biomedical Innovations (PLTW)	1			X	X	X	X
495010	Human Body Systems (PLTW)	1			X	X	X	X
495020	Medical Interventions (PLTW)	1			X	X	X	X
492690	Medical Office Management (BUS)	1			X	X	X	X
493200	Nutrition and Wellness (FACS)	.5			X	X	X	X
493860	Internship	1					X	X

*Will be discontinued after 2018-2019 School Year (Replaced by Foundations of Health Care)

CAREER CLUSTER: LAW, PUBLIC SAFETY, CORRECTIONS, & SECURITY

Law, Public Safety, Corrections & Security: Planning, managing, and providing judicial, legal, and protective services, including professional and technical support services in the fire protection and criminal justice systems.

PATHWAY		PROGRAM OF STUDY						
Law Enforcement Services		Criminal Justice						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
494620	Introduction to Criminal Justice	1			X	X	X	X
494630	Foundations of Law Enforcement	1			X	X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12 th
494600	Crime Scene Investigation	1			X	X	X	X
494610	Criminal Law	1			X	X	X	X
494140	First Responder	1			X	X	X	X
Non-Trade and Industry courses								
493860	Internship	1					X	X

CAREER CLUSTER: MANUFACTURING

Manufacturing: Planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities, such as production planning and control, maintenance, and manufacturing/process engineering

PATHWAY		PROGRAM OF STUDY						
Maintenance, Installation, and Repair		Industrial Equipment Technologies						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
495150	Industrial Technologies I	1			X	X	X	X
495170	Industrial Technologies II	1				X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12 th
495160	Industrial Technologies Lab	1			X	X	X	X
Non-Trade and Industry courses								
493860	Internship	1					X	X

PATHWAY		PROGRAM OF STUDY						
Maintenance, Installation, and Repair		Major Appliance Technology						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
495250	Major Appliance Technology I	1			X	X	X	X
495270	Major Appliance Technology II	1				X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12 th
See page 3 of this document	Major Appliance Technology Lab	1			X	X	X	X
Non-Trade and Industry courses								
493860	Internship	1					X	X

PATHWAY		PROGRAM OF STUDY						
Manufacturing Production		Electronics						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
494800	Electronics I	1			X	X	X	X
494820	Electronics II	1				X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12 th
494810	Electronics Lab	1			X	X	X	X
Non-Trade and Industry courses								
493860	Internship	1					X	X

PATHWAY		PROGRAM OF STUDY						
Manufacturing Production		Furniture Manufacturing						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
494850	Furniture Manufacturing I	1			X	X	X	X
494870	Furniture Manufacturing II	1				X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12 th
See page 3 of this document	Furniture Manufacturing Lab	1			X	X	X	X
Non-Trade and Industry courses								
493860	Internship	1					X	X

PATHWAY		PROGRAM OF STUDY						
Manufacturing Production		Precision Machining Technology						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
495200	Machine Tool I	1			X	X	X	X
495220	Machine Tool II	1				X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12 th
495210	Machine Tool Lab	1			X	X	X	X
Non-Trade and Industry courses								
493860	Internship	1					X	X

PATHWAY		PROGRAM OF STUDY						
Manufacturing Production		Welding						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
494480	Introduction to Skilled Trades	1			X	X	X	X
495580	Shielded Metal Arc Welding	1				X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12 th
495550	Gas Metal Arc Welding	1				X	X	X
495560	Gas Tungsten Arc Welding	1				X	X	X
495540	Advanced Shielded Metal Arc Welding	1				X	X	X
See page 3 of this Document	Welding Lab	1			X	X	X	X
Non-Trade and Industry courses								
493860	Internship	1					X	X

PATHWAY		PROGRAM OF STUDY						
Manufacturing Production		Advanced Manufacturing						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
494940	Advanced Technology for Design and Production	1			X	X	X	X
494950	Systems of Advanced Technology	1				X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12 th
494960	Manufacturing Production Processes	1				X	X	X
494970	Design for the Production of Advanced Products	1				X	X	X
495260	Manufacturing and Production Lab	1			X	X	X	X
Non-Trade and Industry courses								
495450	Computer Integrated Manufacturing (PLTW)	1					X	X
493860	Internship	1					X	X

CAREER CLUSTER: TRANSPORTATION, DISTRIBUTION AND LOGISTICS

Transportation, Distribution & Logistics: Planning, managing, and moving of people, materials, and goods by road, pipeline, air, rail, and water and related professional and technical support services, such as transportation infrastructure planning and management, logistic services, and mobile equipment and facility maintenance.

PATHWAY		PROGRAM OF STUDY						
Facility & Mobile Equipment Maintenance		Aviation Technology						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
494250	Aviation I	1			X	X	X	X
494260	Aviation II	1				X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12 th
See page 3 of this document	Aviation Lab	1			X	X	X	X
Non-Trade and Industry courses								
493860	Internship	1					X	X

PATHWAY		PROGRAM OF STUDY						
Facility & Mobile Equipment Maintenance		Medium/Heavy Truck Technology						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
494650	Medium/Heavy Brake/Drive Train	1			X	X	X	X
494660	Medium/Heavy Electrical Systems/HVAC	1			x	X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12 th
494230	Medium/Heavy Steering & Suspension/Hydraulics	1			X	X	X	X
494240	Medium/Heavy Diesel Engines/CAB	1			X	X	X	X
See page 3 of this document	Medium/Heavy Truck Lab	1			X	X	X	X
Non-Trade and Industry courses								
493860	Internship	1					X	X

PATHWAY		PROGRAM OF STUDY						
Facility & Mobile Equipment Maintenance		*Power Equipment Technology						
Course Code	Core Course	Credit	7 th	8 th	9 th	10 th	11 th	12 th
495400	Power Equipment Technology I	1			X	X	X	X
495420	Power Equipment Technology II	1				X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12 th
495410	Power Equipment Technology Lab	1			X	X	X	X
Non-Trade and Industry courses								
493860	Internship	1					X	X

The last year for this program of study will be the 2020-2021 academic year

PATHWAY		PROGRAM OF STUDY						
Facility & Mobile Equipment Maintenance		Automotive Collision Repair Technology						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
494300	Non-Structural Analysis/ Repair	1			X	X	X	X
494310	Painting & Refinishing	1			X	X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12 th
494220	Damage Analysis, Estimating and Customer Service	1			X	X	X	X
494320	Structural Analysis/ Repair	1			X	X	X	X
See page 3 of this document	Automotive Collision Lab	1			X	X	X	X
Non-Trade and Industry courses								
493860	Internship	1					X	X

PATHWAY		PROGRAM OF STUDY						
Facility & Mobile Equipment Maintenance		Automotive Service Technology						
Course Code	Core Course	Credit	7th	8th	9th	10th	11th	12th
494180	Brakes/Manual Drive Train	1			X	X	X	X
494190	Electrical Systems/HVAC	1			X	X	X	X
+ one full credit from the list below								
Course Code	Elective Course	Credit	7th	8th	9th	10th	11th	12 th
494200	Engine Performance/ Engine Repair	1			X	X	X	X
494210	Suspension & Steering/Automatic Transmissions	1			X	X	X	X
See page 3 of this document	Automotive Service Lab	1			X	X	X	X
Non-Trade and Industry courses								
493860	Internship	1					X	X

MIDDLE SCHOOL COURSES

399270 Approved Arts, Audio/Video Technology & Communications Exploration Course

Credit: Grade levels: 7-8

This one-semester class can include any course that will serve as a foundation for a program of study in the Arts A/V Technology and Communications Career Cluster.

Approval must be obtained from ARCareerEd before implementation

HIGH SCHOOL COURSES

495370 Abnormal Psychology

Credit: .5 **Grade Levels:** 9-12

This course provides a basic survey of maladaptive human behavior. Major psychological disorders, their causes, symptom behaviors, cultural influences, and relevant treatment approaches are discussed. Included topics are historical medical background, perspectives of treatment of the mentally ill, fundamental definitions, causes of anxiety disorders, disorders of mood including depression and bipolar disorder, personality disorders, disorders of thought including schizophrenia, substance-related disorders, and domestic violence. Legal, ethical, and social issues relating to the medical professional's role in treating psychological disorders are explored.

494130 Advanced Advertising and Graphic Design**Credit: 1 Grade Levels: 11-12**

Advanced Advertising and Graphic Design takes the best, most important and relevant components of Advertising and Graphic Design Introduction and Intermediate courses, and expands them for the serious third year student. Each component is flexible and can be implemented throughout the school year, fulfilling the 120 credit hours of instruction. Each component is essentially intertwined with each other and may be implemented simultaneously.

493660 Advanced A/V Tech & Film**Credit: 1 Grade Levels: 11-12**

This independent production based program is designed to allow mastery of the knowledge and skills needed to begin a successful Audio/Video or Film career.

493630 Advanced Graphic Communications**Credit: 1 Grade Levels: 11-12**

Advanced digital imaging, as well as image assembly and construction, platemaking techniques, and finishing and binding are presented in this course. This course is directed at building advance-level skills and preparing for the workforce.

494380 Advanced Photography**Credit: 1 Grade Levels: 11-12**

This independent production based program is designed to provide the advanced photography student with knowledge and highly advanced skills for a comprehensive career in photography.

493400 Advanced Radio**Credit: 1 Grade Levels: 11-12**

This independent production based program is designed to allow mastery of the knowledge and skills needed to begin a successful radio broadcasting career.

495540 Advanced Shielded Metal Arc Welding**Credit: 1 Grade Levels: 9-12**

This instructional program prepares individuals to apply technical knowledge and skills to unite or separate metal parts by heating, using a variety of techniques and equipment. Emphasis of this course will be the use of shielded metal arc welders.

493440 Advanced Television**Credit: 1 Grade Levels: 11-12**

This independent production-based program is designed to allow the student to master the knowledge and skills needed to begin a successful television career

494160 Advertising and Graphic Design Lab**Credit: 1 Grade Levels: 10-12**

This production-based program is designed to allow the serious advertising design students' time for the development of skills and knowledge needed to execute a comprehensive advertising design product.

495760 Air Force JROTC I**Credit: 1 Grade Levels: 9-12**

The JROTC program stresses military discipline, with a curriculum that emphasizes study of military science and military history.

495770 Air Force JROTC II**Credit: 1 Grade Levels: 10-12**

The JROTC program stresses military discipline, with a curriculum that emphasizes study of military science and military history.

495780 Air Force JROTC III**Credit: 1 Grade Levels: 11-12**

The JROTC program stresses military discipline, with a curriculum that emphasizes study of military science and military history.

495880 Air Force JROTC IV

Credit: 1 Grade Level: 12

The JROTC program stresses military discipline, with a curriculum that emphasizes study of military science and military history.

494860 Architecture & Construction Lab

Credit 1 Grade Levels: 9-12

This course provides the student time to build skills and knowledge of the construction industry through a series of progressive exercises that cover a broad range of projects.

495790 Army JROTC I

Credit: 1 Grade Levels: 9-12

The JROTC program stresses military discipline, with a curriculum that emphasizes study of military science and military history.

495800 Army JROTC II

Credit: 1 Grade Levels: 10-12

The JROTC program stresses military discipline, with a curriculum that emphasizes study of military science and military history.

495810 Army JROTC III

Credit: 1 Grade Levels: 11-12

The JROTC program stresses military discipline, with a curriculum that emphasizes study of military science and military history.

495890 Army JROTC IV

Credit: 1 Grade Level: 12

The JROTC program stresses military discipline, with a curriculum that emphasizes study of military science and military history.

See page 3 of this document Automotive Collision Lab

Credit: 1 Grade Levels: 9:12

This course provides the student time to build skills and knowledge of the related industry through a series of progressive exercise that cover a board range of projects.

See page 3 of this document Automotive Service Lab

Credit: 1 Grade Levels: 9:12

This course provides the student time to build skills and knowledge of the related industry through a series of progressive exercise that cover a board range of projects.

494250 Aviation I

Credit: 1 Grade Levels: 9-12

This program will include instruction on the general core curriculum required by the Federal Aviation Administration.

494260 Aviation II

Credit: 1 Grade Levels: 10-12

This program will include instruction on the general core curriculum required by the Federal Aviation Administration (FAA). This course will prepare students for the Air Frame and Power Plant School certified by the FAA.

See page 3 of this document Aviation Lab

Credit: 1 Grade Levels: 9:12

This course provides the student time to build skills and knowledge of the related industry through a series of progressive exercise that cover a board range of projects.

494180 Brakes/Manual Drive Train

Credit: 1 Grade Levels: 9-12

This course prepares individuals to engage in the diagnosis and repair of brakes. Instruction will include units on hydraulic system diagnosis and repair, drum brake diagnosis and repair, and disc brake diagnosis and repair.

494470 Cabinetry

Credit 1 Grade Levels: 9-12

This instructional course prepares individuals to apply technical knowledge and skills to lay out, fabricate, erect, install, and repair cabinets finish woodworking, using hand and power tools.

494460 Carpentry
Credit: 1 Grade Levels: 9-12

This instructional course prepares individuals to apply technical knowledge and skills to lay out, fabricate, erect, install, and repair wooden structures and fixtures, using hand and power tools.

See page 3 of this document Certified Nursing Assistant (CNA) Program

Credit: .5 Grade Levels: 10:12

This certification course is approved as an expansion to the Medical Professions Program of Study only.

494610 Criminal Law
Credit: 1 Grade Levels: 9-12

This instructional program prepares individuals to perform the duties of police and public security officers, including witness interviewing, evidence collection and management, and basic crime prevention methods.

494600 Crime Scene Investigation
Credit: 1 Grade Levels: 9-12

Prerequisite: Law Enforcement (494630)

This course provides students with an overview of the basics of crime scene investigations. Students will gain an understanding of the skills necessary to properly recognize, document, collect, process, and preserve evidence.

494220 Damage Analysis, Estimating and Customer Service
Credit: 1 Grade Levels: 9-12

This course will educate the student on how to assess and analyze collision damaged vehicles. The student will also learn the fundamentals of damage patterns and different types of damage. Hand written and computer generated estimates using the latest estimating software and resources will be taught.

494950 Design for Manufacturing
Credit: 1 Grade Levels: 10-12

In this course, students will apply the technologies that are found in modern clean, production environments. Students study effective and energy efficient control of pumping, conveyors, piping, pneumatic and hydraulic control systems. Students apply total quality management to production design to assure quality. Students also focus on properties of materials and material testing, creating documentation to support designs, examining properties and justifying material selections based on properties. Students learn that old products become the new raw materials for new products.

494650 Diesel Brakes
Credit: 1 Grade Levels: 9-12

This instructional program prepares individuals to diagnose and repair diesel equipment in on-road and off-road vehicles and machinery.

494500 Electrical
Credit: 1 Grade Levels: 9-12

This course prepares individuals to apply technical knowledge and skills to install and repair residential electrical systems.

494190 Electrical Systems/HVAC
Credit: 1 Grade Levels: 9-12

This course prepares individuals to engage in the diagnosis and repair of electrical/electronic systems. Instruction will include units on general electrical system diagnosis and service.

494200 Engine Performance/ Engine Repair
Credit: 1 Grade Levels: 9-12

This course prepares individuals to engage in the diagnosis and repair of engine performance. Instruction will include units on general engine diagnosis and computerized engine controls diagnosis and repair.

494140 First Responder**Credit: 1 Grade Levels: 9-12**

This course introduces students to emergency medical technician occupational skills. Prior approval must be obtained from the Trade and Industry Sciences Office before this course is implemented.

495350 Foundations of Health Care**Credit: 1 Grade Levels: 9-12**

This course is designed to introduce students to medical professions and the basic foundational skills for first aid and the treatment of patients. Along with Anatomy and Physiology this is a foundation core course for subsequent education and training in health services. This course is a revised combination of Introduction to Medical Professions and Medical Procedures.

494630 Foundations of Law Enforcement**Credit: 1 Grade Levels: 9-12**

This instructional program prepares individuals to perform the duties of police and public security officers, including patrol and investigative activities, traffic control, crowd control, and public relations.

494050 Foundations of Sports Medicine**Credit: 1 Grade Levels: 9-12**

This course provides students with a general overview of sports medicine and its history from the perspective of the healthcare community that includes injury prevention, treatment, rehabilitation, psychosocial, and administration concerns. Students will gain an understanding of sports medicine and the role it plays in the athletic community.

494150 Fundamentals of Advertising and Graphic Design**Credit: 1 Grade Levels: 9-12**

This instructional program in the applied visual arts is a core course and prepares individuals to use artistic techniques to effectively communicate ideas and information to business and consumer audiences via illustrations and other forms of printed media.

493640 Fundamentals of A/V Tech & Film**Credit: 1 Grade Levels: 9-12**

Students in this core program will learn the basics of film and television production as well as other forms of audio-video communication such as animation, graphics, and sound production for video. They will also study the history of audio-video technology and film as well as career development and employment in this pathway.

494350 Fundamentals of Photography**Credit: 1 Grade Levels: 9-12**

This core instructional program prepares individuals to effectively communicate ideas and information to business and consumer audiences and record events and people via film, still or video photography.

493420 Fundamentals of Television**Credit: 1 Grade Levels: 9-12**

The core program is designed to give practical knowledge in preparation for the pursuit of a career in television

495550 Gas Metal Arc Welding**Credit: 1 Grade Levels: 9-12**

This instructional program prepares individuals to apply technical knowledge and skills to unite or separate metal parts by heating, using a variety of techniques and equipment. Emphasis of this course will be the use of gas metal arc welders.

495560 Gas Tungsten Arc Welding**Credit: 1 Grade Levels: 9-12**

This instructional program prepares individuals to apply technical knowledge and skills to unite or separate metal parts by heating, using a variety of techniques and equipment. Emphasis of this course will be the use of gas tungsten arc welders.

493620 Graphic Communications Lab**Credit: 1 Grade Levels: 11-12**

This production based course provides the advanced graphic communications students' time to build skills and knowledge of reproduction through a series of progressive exercises that cover the basics of camera and darkroom operations. Learning activities include film exposure of processing techniques, materials, operations, and safety practices of offset duplicator operation through a series of tasks and simulations.

495300 Human Anatomy and Physiology

Credit: 1 Grade Levels: 9-12

This course focuses on anatomical and physiological systems of the body as well as the diseases of those systems.

495320 Human Behavior and Disorders

Credit: .5 Grade Levels: 9-12

This course focuses on normal behavior and personality, abnormal behavior and personality, and behavior disorders and the therapies used to treat those disorders and abnormalities.

495100 HVACR I

Credit: 1 Grade Levels: 9-12

This course prepares individuals to apply technical knowledge and skills to repair, install, service, and maintain the operating condition of heating, air conditioning, and refrigeration systems.

495110 HVACR II

Credit: 1 Grade Levels: 10-12

This course prepares individuals to apply technical knowledge and skills to repair, install, service, and maintain the operating condition of heating, air conditioning, and refrigeration systems.

See page 3 of this document HVACR Lab

Credit: 1 Grade Levels: 9-12

This course provides the student time to build skills and knowledge of the related industry through a series of progressive exercise that cover a board range of projects.

495160 Industrial Equipment Technologies Lab

Credit: 1 Grade Levels: 9-12

This production-based program is designed to allow for the development of skills and knowledge needed to execute comprehensive industrial equipment maintenance.

495150 Industrial Technologies I

Credit: 1 Grade Levels: 9-12

The student will be trained to perform a variety of skills to repair, install, fabricate, set up, adjust, and do preventive maintenance to industrial machinery and equipment.

495170 Industrial Technologies II

Credit: 1 Grade Levels: 10-12

The student will be trained to perform a variety of skills to repair, install, fabricate, set up, adjust, and do preventive maintenance to industrial machinery and equipment.

494170 Intermediate Advertising and Graphic Design

Credit: 1 Grade Levels: 10-12

This is a core course emphasizing the integration of computer skills and knowledge of software used in the market place.

493650 Intermediate A/V Tech & Film

Credit: 1 Grade Levels: 10-12

This core program is designed to develop high level technical skills in preparation for a career in Audio/Video and Film production.

493610 Intermediate Graphic Communications

Credit: 1 Grade Levels: 10-12

This course provides an overview of basic typography, layout design, desktop publishing, and operating. It requires production of visuals using electronic illustrations and text of the printing industry, its basic operations, and career opportunities

494370 Intermediate Photography**Credit: 1 Grade Levels: 10-12**

This core production based instructional program allows the photography student to implement artistic techniques to effectively communicate ideas and information to business and consumer audiences and record events and people via film, still or video photography.

493390 Intermediate Radio**Credit: 1 Grade Levels: 10-12**

This core program is designed to develop high level technical skills in preparation for a career in radio broadcasting.

493430 Intermediate Television**Credit: 1 Grade Levels: 10-12**

The core course will provide an understanding of production principles and experience with the video camera, lighting instruments and techniques, microphones, script creation, and editing. Students will perform assignments on camera as well as studio and control room duties.

494620 Introduction to Criminal Justice**Credit: 1 Grade Levels: 9-12**

This instructional program prepares individuals to perform the duties of police and public security officers, including patrol and investigative activities, traffic control, crowd control, and public relations.

495340 Introduction to Medical Professions**Credit: .5 Grade Levels: 9-12**

This course provides a general overview of the many health-related occupations and the special concerns of the health care worker. *Will be discontinued after 2018-2019 School Year (Replaced by Foundations of Health Care)*

495380 Introduction to Medical Professions Expanded**Credit: .5 Grade Levels: 9-12**

This course is designed as an extension of Introduction to Medical Professions. The course provides students with a general overview of the more crucial content areas of the health science technology education program core courses. Areas covered are medical terminology, medical math, human growth and development, processes of disease, and employability skills needed within the health care industry. This course is recommended for students who will not have the opportunity to take any additional health science technology education courses other than Introduction to Medical Professions.

494940 Introduction to Manufacturing**Credit: 1 Grade Levels: 9-12**

This course will engage students in the use of modern technologies in the design and improvement of products. Students will use three-dimensional CAD software in the creation and analysis process. Students will document designs using standards set by industry for design documentation. Students will implement methods of green production and just-in-time component supply which allow for the lowest cost and highest quality products. Students will design and troubleshoot data acquisition, programmable logic control, process monitoring, automation and robotic systems. Students will incorporate sensing and vision systems, utilizing cameras and sensors to control automated systems.

494480 Introduction to Skilled Trades**Credit: 1 Grade Levels: 9-12**

This foundational course introduces safety, tool knowledge and employability skills.

480950 JROTC Health**Credit: 1 Grade Levels: 9-12**

The JROTC program stresses military discipline, with a curriculum that emphasizes study of military science and military history.

485950 JROTC Physical Education**Credit: 1 Grade Levels: 9-12**

The JROTC physical education program stresses military discipline, with a curriculum that emphasizes study of military science and military history.

See page 3 of this document Major Appliance Technology Lab

Credit: 1 Grade Levels: 9-12

This course provides the student time to build skills and knowledge of the related industry through a series of progressive exercise that cover a board range of projects.

495260 Manufacturing and Production Lab

Credit: 1 Grade Levels: 9-12

This course provides the student time to build skills and knowledge of the manufacturing industry through a series of progressive exercises that cover a broad range of projects.

494970 Manufacturing Power & Equipment Systems

Credit: 1 Grade Levels: 10-12

Students will create plant designs to process and automatically assemble materials into new products. Students follow the process of developing and producing a new product from prototype to final product. They will accomplish this by creating a production flow plan that allows for the mass production of the product. Students will analyze and evaluate all aspects of the design and production processes with an emphasis on clean, lean and green production. Students will utilize data acquisition, quality control processes and Six Sigma methodology to control production.

494960 Manufacturing Production Processes

Credit: 1 Grade Levels: 10-12

Students will design cost-effective work cells incorporating automation and robotics to improve quality of final products. The advanced production in this course depends on the use and coordination of information, automation, network systems, vision and sensing systems. Students will design and create mechatronic systems and automated tooling to accomplish these advanced tasks. Students produce authentic documentation about their cyber-mechanical systems and the integration with data to control and monitor processes.

495820 Marine JROTC I

Credit: 1 Grade Levels: 9-12

The JROTC program stresses military discipline, with a curriculum that emphasizes study of military science and military history.

495830 Marine JROTC II

Credit: 1 Grade Levels: 10-12

The JROTC program stresses military discipline, with a curriculum that emphasizes study of military science and military history.

495840 Marine JROTC III

Credit: 1 Grade Levels: 11-12

The JROTC program stresses military discipline, with a curriculum that emphasizes study of military science and military history.

495900 Marine JROTC IV

Credit: 1 Grade Level: 12

The JROTC program stresses military discipline, with a curriculum that emphasizes study of military science and military history.

493840 Mechanical, Plumbing and Electrical Systems

Credit: 1 Grade Level: 11-12

This is a foundation course to combine electrical, plumbing and HVAC courses into a one credit introductory course.

493670 Media Communications Lab

Credit: 1 Grade Levels: 10-12

This production-based program is designed to allow the audio/video student studio time for the development of skills needed to execute a comprehensive media career.

495230 Medical Clinical Internship/Specialization (.5 Credit)

Credit: .5 Grade Levels: 11-12

This is an educational program that offers Specialized Training in a health related field. It may also alternate in-school instruction and supervised on-the-job training activities in health science technology occupations.

495310 Medical Clinical Internship/Specialization**Credit: 1 Grade Levels: 11-12**

This is an educational program that offers Specialized Training in a health related field. It may also alternate in-school instruction and supervised on-the-job training activities in health science technology occupations.

495240 Medical Math**Credit: 1 Grade Levels: 9-12**

This course is designed to increase students' ability to identify, solve, and apply mathematical principles involving temperature, weights, and measures used in the health care delivery system.

495330 Medical Procedures**Credit: .5 Grade Levels: 9-12**

Medical Procedures is a one-unit course that helps students develop specific and general skills needed by the health science technology professional. *Will be discontinued after 2018-2019 School Year (Replaced by Foundations of Health Care)*

495390 Medical Procedures Expanded**Credit: .5 Grade Levels: 9-12**

This course focuses on the specific skills needed in several different areas of health care. Students are able to build upon the skills gained in the Medical Procedures course. The different areas addressed are dental assisting, laboratory assisting, medical assisting, nurse assisting, physical therapy assisting, and veterinary assisting.

495360 Medical Terminology**Credit: .5 Grade Levels: 9-12**

Medical Terminology assists students in developing the language used for communication in the healthcare profession.

494660 Medium/Heavy Electrical Systems/HVAC**Credit: 1 Grade Levels: 9-12**

This instructional program prepares individuals to diagnose and repair diesel equipment in on-road and off-road vehicles and machinery. Advanced on-the-job training may be included.

494230 Medium/Heavy Steering & Suspension/Hydraulics**Credit: 1 Grade Levels: 9-12**

This course prepares individuals to apply technical knowledge to diagnose and repair steering & suspension/hydraulics in trucks, buses, and other commercial and industrial vehicles.

494230 Medium/Heavy Diesel Engines/CAB**Credit: 1 Grade Levels: 9-12**

This course prepares individuals to apply technical knowledge to diagnose and repair diesel engines and CAB in trucks, buses, and other commercial and industrial vehicles.

See page 3 of this document Medium/Heavy Truck Lab**Credit: 1 Grade Levels: 9-12**

This course provides the student time to build skills and knowledge of the related industry through a series of progressive exercise that cover a board range of projects.

495850 Navy JROTC I**Credit: 1 Grade Levels: 9-12**

The JROTC program stresses military discipline, with a curriculum that emphasizes study of military science and military history.

495860 Navy JROTC II**Credit: 1 Grade Levels: 10-12**

The JROTC program stresses military discipline, with a curriculum that emphasizes study of military science and military history.

495870 Navy JROTC III**Credit: 1 Grade Levels: 11-12**

The JROTC program stresses military discipline, with a curriculum that emphasizes study of military science and military history.

495910 Navy JROTC IV
Credit: 1 Grade Level: 12

The JROTC program stresses military discipline, with a curriculum that emphasizes study of military science and military history

494300 Non-Structural Analysis/Repair

Credit: 1 Grade Levels: 9-12

This course concentrates on analysis and repair of the nonstructural components as they pertain to collision repair.

494310 Painting/Refinishing

Credit: 1 Grade Levels: 9-12

This course concentrates on painting and refinishing as they pertain to collision repair. The course includes causes and correction of finish defects.

495290 Pathology

Credit: .5 Grade Levels: 9-12

This course is devoted to the exploration of human pathology. Pathology is the branch of medical science that studies the causes, nature, and effects of diseases. This course of study begins with an introduction to pathology-related terms, predisposing factors of diseases, the relationship between diagnosis and prognosis, and disease treatments. Following the introduction, the course delves into a range of pathology-related topics and their relationships to specific systems of the human body. The topics include signs and symptoms of pathology, the effects of trauma, the effects of age, and characteristics of common diseases.

495280 Pharmacy Technology Fundamentals

Credit: 1 Grade Levels: 9-12

Provides an overview of the pharmacy technology field and develops the fundamental concepts and principles necessary for successful participation in the pharmacy field.

494360 Photography Lab

Credit: 1 Grade Levels: 10-12

This production-based program will allow the serious photography student time for the development of skills and knowledge needed to produce comprehensive photography products.

494510 Plumbing

Credit: 1 Grade Levels: 9-12

This course prepares individuals to apply technical knowledge and skills to lay out, assemble, install, and maintain piping fixtures and piping systems, hot water, heating, cooling, and drainage systems.

495410 Power Equipment Technology Lab

Credit: 1 Grade Levels: 9-12

This course provides the student time to build skills and knowledge of the transportation industry through a series of progressive exercises that cover a broad range of projects.

493410 Radio Lab

Credit: 1 Grade Levels: 10-12

This production-based program is designed to allow the broadcasting student studio time for the development of skills needed to execute a comprehensive radio career.

495580 Shielded Metal Arc Welding

Credit: 1 Grade Levels: 9-12

This instructional program prepares individuals to apply technical knowledge and skills to unite or separate metal parts by heating, using a variety of techniques and equipment. Emphasis of this course will be the use of shielded metal arc welders.

494070 Sports Medicine Injury Assessment

Credit: 1 Grade Levels: 9-12

Prerequisite: 494050 Foundations of Sports Medicine

This course provides students with the skills needed to evaluate sports related injuries. Students will gain an understanding of common injuries that affect athletes, injury assessment, and treatment.

494320 Structural Analysis/Repair

Credit: 1 Grade Levels: 10-12

This course concentrates on analysis and repair of the structural components as they pertain to collision repair.

494210 Suspension & Steering/Automatic Transmissions

Credit: 1 Grade Levels: 9-12

This course prepares individuals to engage in the diagnosis and repair of suspension and steering. Instruction will include units on steering systems diagnosis and repair; suspension systems diagnosis and repair; wheel alignment diagnosis, adjustment, and repair; and wheel and tire diagnosis and repair.

493450 Television Lab

Credit: 1 Grade Levels: 10-12

This production-based program is designed to allow the television student studio time for the development of skills needed to execute a comprehensive TV career.

See page 3 of this document Welding Lab

Credit: 1 Grade Levels: 9:12

This course provides the student time to build skills and knowledge of the related industry through a series of progressive exercise that cover a board range of projects.