Albertville City Schools
CAREER AND TECHNICAL ACADEMIES

Albertville Innovation Academy
Career and Technical Education Offerings

Additive Manufacturing			
Course	**Course #**	**Level**	**Credit**
Safety and Health Regulations	17049G1000	1	1.0
Introduction to Drafting Design	21106G1013	2	1.0
Intermediate to Drafting Design	21106G1023	3	1.0
3D Solid Model Design I	21107G1012	4	1.0
3D Solid Model Design II	21107G1022	5	1.0
CTE Lab in Manufacturing	13997G1001	1-4	1.0
Career Pathway Project in Manufacturing	13997G1003	5	1.0
Aggie Vision: Advertisement Design Pathway			
Course	**Course #**	**Level**	**Credit**
Advertising and Graphic Design I	11154G1001	1	1.0
Photography I	11052G1015	2	1.0
Advertising and Graphic Design II	11154G1002	3	1.0
Photography II	11052G1016	4	1.0
Advertising and Graphic Design. III	11994G1001	5	1.0
Photography III	11052G1017	6	1.0
CTE Lab in Arts, A/V, Tech, & Communications	11197G1002	1-6	1.0
Senior Career Pathway Project-Arts, A/V, Tech and Communications	11197G1001	6	1.0
Aggie Vision: Media Production			
Course	**Course #**	**Level**	**Credit**
Media Production Foundations (Required Foundation Course)	11153G1010	1	1.0
Broadcasting Production I	1051G1012	2	1.0
Audio Production I	11051G1045	3	1.0
Broadcasting Production II	11051G1013	4	1.0
Audio Production	11051G101	5	1.0
CTE Lab in Arts, AV, TV, & Communications	11197G1002	1-3	1.0
Senior Pathway Project- Arts, AV, TV, and Communications	11197G1001	6	1.0
Agri Sciences Pathway: Animal Science			
Course	**Course #**	**Level**	**Credit**
Intro to Veterinary Science	18105G1012	1	1.0
Equine Science	18104G1000	2	
AgriBiology (3rd and/or 4th Science Credit Eligible)	18004G1001	3	1.0
Veterinary Science and	18105G1022	4	1.0
CTE Lab in AFNR	18997G1000	1-4	
Career Pathway Project in AFNR	18998G1000	5	1.0
Agri Sciences Pathway: Building and Construction			
Course	**Course #**	**Level**	**Credit**
Introduction to Agricultural Construction	18403G1000	1	1.0
Construction Framing	18004G1001	2	1.0
Construction Finishing and Interior Systems	18011G1000	3	1.0
Construction Site Prep and Foundations	18014G1000	4	1.0
CTE Lab in AFNR	18997G1000	1-3	1.0
Career Pathway Project in AFNR	18998G1000	4	1.0

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Agri Sciences Pathway: Plant Science			
Course	**Course #**	**Level**	**Credit**
Greenhouse & Nursery Production	18052G1002	1	1.0
Plant Biotechnology (3rd and/or 4th Science Credit Eligible)	18308G1002	2	1.0
Landscape Design & Management and/or	18056G1001	3	1.0
Urban Forestry	18052G1002	4	1.0
CTE Lab in AFNR	18997G1000	1-4	1.0
Career Pathway Project in AFNR	18998G1000	5	1.0
Cooperative Education			
Course	**Course #**	**Grade**	**Credit**
Cooperative Education	22998G1014	11&12	1.0
Cyber Security Pathway			
Course	**Course #**	**Level**	**Credit**
Information Technology Fundamentals	10001G1000	1	1.0
Cyber Security I	10020G1011	2	1.0
Cyber Security II	10020G1012	3	1.0
Cyber Security III	10020G1013	4	1.0
CTE Lab in Information Technology	10997G1002	1-5	1.0
Career Pathway Project in Information Technology	10997G1002	5	1.0
Health Science Pathway			
Course	**Course #**	**Level**	**Credit**
Foundations of Health Science (Health Credit Eligible)	14002G1001	1	1.0
Safety and Health Regulations	7049G1000	1	1.0
Human Body Structures & Functions (3rd and/or 4th Science Credit Eligible)	14299G1001	2	1.0
Therapeutic Services	14099G1000	3	1.0
Operating Room Foundations and/or	14056G1000	4	1.0
Health Science Internship	14298G1000	5	1.0
Precision Machining Pathway			
Course	**Course #**	**Level**	**Credit**
Safety and Health Regulations	17049G1000	1	1.0
Milling and Surface Grinder I	13203G1008	2	1.0
Milling and Surface Grinder II	13203G1009	3	1.0
Computer Numerical Control I	13203G1006	4	1.0
Computer Numerical Control II	13203G1007	5	1.0
Computer-Aided Design and Computer-Aided Manufacturing I	13203G1004	6	1.0
Computer-Aided Design and Computer-Aided Manufacturing II	13203G1005	7	1.0
CTE Lab in Manufacturing	13997G1001	1-6	1.0
Career Pathway Project in Manufacturing	13997G1003	8	1.0
Teaching and Training			
Course	**Course #**	**Level**	**Credit**
Foundations in Education and Training (Required Foundation Course)	19151G1001	1	1.0
Practices in Education	19152G1001	2	1.0
Early Childhood Education	19153G1030	3	1.0
Methods in Education	19152G1002	4	1.0
Communication for Leaders	19151G1002	5	1.0
Education and Training Internship	19198G1000	6	1.0
CTE Lab in Education and Training	19197G1002	1-5	1.0
Career Pathway Project in Education and Training	19197G1004	7	1.0

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Welding Pathway			
Course	**Course #**	**Level**	**Credit**
Safety and Health Regulations	17049G1000	1	1.0
Welding: SMAW I	13207G1001	2	1.0
Welding: SMAW II	13207G1002	3	1.0
Welding: GMAW and FCAW	13207G1003	4	1.0
Project Management	12002G1003	5	1.0
CTE Lab in Architecture and Construction	17017G1000	1-4	1.0
Career Pathway Project Arch. & Con.	17047G1001	4	1.0
Safety and Health Regulations	17049G1000	5	1.0

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Discrimination on the basis of sex, race, age, religious belief, disability, national origin, or ethnic group shall be prohibited in all Career and Technical education programs and activities of the Albertville City Schools.

Safety Instruction for Career/Technical Education

General. Students participating in a Career/Technical Education lab or shop must be given instructions in safety. Each student is required to practice safety in every activity in which he/she may engage. Safety is included in each course of study as an important phase of training. Disregarding appropriate safety requirements and/or procedures may be grounds for dismissal from the Career/Technical program.

Insurance. It is recommended that all students who participate in Career/Technical courses which include lab activities be encouraged to maintain an accident insurance policy for his/her protection.

Maintenance of Equipment and Rooms. Safe buildings, grounds, and equipment shall be maintained to minimize accidents or injuries to students, employees, and other citizens. Protection from such dangers as fire, natural disasters, mechanical, electrical malfunctions, and other hazards shall be provided. The director/administrator shall make periodic evaluative reports concerning their adequacy in terms of student care and safety.

Safety Program. The system has a district-wide safety and fire prevention program that coordinates the requirements of the fire marshal and civil defense program with appropriate school and community officials. Buildings shall be planned, equipped, and maintained in accordance with appropriate local, state, and federal building codes and safety regulations. Buildings shall be provided with fire and tornado alarm systems and workable fire extinguishers.

Safety Instruction. Safety instruction, to include accident prevention, safety drills, and disaster procedures, shall be stressed at all grade levels. Expertise of fire prevention, experts, health officials, and other community services shall be incorporated into the total safety program. Special emphasis shall be placed upon supervision within classrooms and on requirements concerning safety precautions in such “high risk’ areas as shop classes. Proper supervision of students and others using the buildings shall always be required.

Career and Technical Education Course Fees

Course fees will be collected for Career and Technical Education Courses according to each individual class predetermined course fee.

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Additive Manufacturing Pathway

Additive Manufacturing is based upon Computer-Aided-Design and 3-D Printing. This program provides students with the knowledge of Introduction, Intermediate, and Advanced Drafting Design Technology, Three-Dimensional Solid Modeling and Engineering Applications and the skill to be successful in the Mechanical and Technical Design fields.

Career and Technical Student Organization: SkillsUSA fee is $20 a year. This amount is due at the beginning of each year in addition to the course fee. There is no waiver.

Course Fees: Each course in the Additive Manufacturing Pathway has a $40 course fee due in the first two weeks of each course.

Career Pathway

Level 1`& 2	Level 2 &3	Level 3 &4	Level 5	Certification Opportunities
Safety and Health Regulations (17049G1000) Introduction to Drafting Design (21106G1013)	Intermediate Drafting Design (21106G1023) 3D Solid Model Design I (21107G1012)	3D Solid Model Design I (21107G1012) 3D Solid Model Design II (21107G1022)	Career Pathway Project-Manufacturing (13997G1003)	• Autodesk- AutoCAD Certified User • Autodesk- Inventor Certified User • Autodesk Fusion 360 Certified User • OSHA 30 • SolidWorks Associate

SAFETY AND HEALTH REGULATIONS (21106G1013)
LEVEL: 1 **Credit:** 1.0
Prerequisite(s): None
A one-credit course designed to provide students with information on the importance of government and industry regulations as well as individual responsibilities for performing activities safely. Students identify common safety hazards found in the workplace and examine their own roles in minimizing and avoiding unsafe practices. Specific topics include flammable and combustible liquids, emergency egress and fire protection, electrical safety, environmental control, machine guarding, tool safety, first aid, hazard communication, personal protective equipment, walking and working surfaces, and material handling and storage. Students will have the opportunity to earn OSHA 30 certifications in this course.

INTRODUCTION DRAFTING DESIGN (21106G1013)
Level: 2 **Credit:** 1.0
Prerequisite(s): Safety and Health Regulations (21106G1013)
A one-credit course designed to provide students with instruction and experiences in computer-aided drafting (CAD) functions and techniques using CAD software applications.

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INTERMEDIATE DRAFTING DESIGN (21106G1023)
Level: 3 **Credit:** 1.0
Prerequisite(s): Introduction to Drafting Design (21106G1013)
A one-credit course designed to further the development of students' knowledge regarding the use of advanced drafting design practices and procedures. The prerequisite for this course is Introduction to Drafting Design.

3D SOLID MODEL DESIGN I (21107G1012)
Level: 4 **Credit:** 1.0
Prerequisite(s): Intermediate Drafting Design (21106G1023)
A one-credit course intended to introduce students to three-dimensional modeling utilizing three-dimensional capabilities of CAD software. The prerequisite for this course is Intermediate Drafting Design.

3D SOLID MODEL DESIGN II (21107G1022)
Level: 5 **Credit:** 1.0
Prerequisite(s): 3D Solid Model Design I (21107G1012)
A one-credit course intended for advanced students in three-dimensional (3-D) design modeling. The prerequisite for this course is Three-Dimensional Solid Model Design.

CTE LAB – MANUFACTURING (13997G1001)
Levels: 1-4 **Credit:** 1.0
Prerequisite(s): Introduction to Drafting Design (21106G1013)
CTE Lab in Manufacturing is designed to enhance the student's general understanding and mastery of the cluster. This course is designed as a learning laboratory to support students' individual interests and goals. This laboratory may take place in a traditional classroom, in an industry setting, or in a virtual learning environment. This course may be taken in any program within the Manufacturing cluster.

CAREER PATHWAY PROJECT – MANUFACTURING (13997G1003)
Level: 5 **Credit:** 1.0
Prerequisite(s): 3D Solid Model Design I (21107G1012)
Career Pathway Project (CPP) in Manufacturing is a capstone course designed for career and technical education students who have completed two or more courses in the Manufacturing career cluster. This course allows students to utilize their secondary coursework through an experience that showcases their learning. It provides an opportunity for a student to choose an area of interest and engage in an in-depth exploration of the area while demonstrating problem-solving, decision-making, and independent-learning skills. The CPP contributes to an educational plan of challenging courses and practical experiences that prepares students for the workplace or for pursuing further education. This course may be taken in any program within the Manufacturing cluster.

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Aggie Vision Pathway: Advertising Design

Advertising Design provides students with orientation experiences and laboratory safety for working in an advertising design studio environment. Topics of study include art history, art production, art criticism, design elements and principles, and materials and media utilized in the field of visual communication. Particular emphasis is placed on related academic skills. Instruction also includes information regarding various computer operations, applications and procedures, type styles, desktop publishing, layout and design techniques, mechanical production files, formats, and technology in the workplace.

Career and Technical Student Organization: Foundation of Business Leadership (FBLA) fee is $20 a year. This amount is due at the beginning of each year in addition to the course fee. There is no waiver.
Course Fees: Each course in the Aggie Vision: Advertising Design Pathway has a $30 course fee due in the first two weeks of each course.

Career Pathway

Levels 1 & 2	Levels 2 & 3	Level 4 &5	Additional Courses	Certification Opportunities
Advertising and Graphic Design I (11154G100) Photography I(11052G1015)	Advertising and Graphic Design II (11154G1002) Photography II (11052G1016)	Advertising and Graphic Design III (11154G1003) Photography III (11052G1017)	Senior Career Pathway Project-Arts, A/V, Tech and Communications (11197G1001) CTE Lab in Arts, A-V Tech, and Comm (11994G1001	• Adobe Certified Associate -Photoshop • Adobe Certified Associate -Premiere Pro • Adobe Certified Associate -Illustrator • Adobe Certified Associate -Dreamweaver • Certified Internet Webmaster Ecommerce • Drone Operator – Skills for Success • FAA Part 107

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ADVERTISING AND GRAPHIC DESIGN I(REQUIRED FOUNDATION COURSE) (11154G100)
Level: 1 **Credit:** 1.0
Prerequisite(s): None
Advertising and Graphic Design I introduces principles, concepts, and skills related to advertising and graphic design. Topics of study include workflow, design, color theory, typography, critical skills, and file preparation and output. The ethical use of artificial intelligence is woven throughout the course of study.

PHOTOGRAPHY I (11052G1015)
Level: 2 **Credit:** 1.0
Prerequisite(s): NONE
Photography I introduces the fundamentals of digital photography. It focuses on seeing photographically, operating automatic cameras, using light, capturing images, and producing digital images. The course also presents the history of photography and legal and ethical issues related to the industry, including the use of artificial intelligence.

ADVERTISING AND GRAPHIC DESIGN II (11154G1002)
Level: 3 **Credit:** 1.0
Prerequisite(s): Advertising and Graphic Design I 11154G1001)
Advertising and Graphic Design II extends the content of Advertising and Graphic Design I by providing instruction in the application of advanced design techniques and processes. Areas of study include legal issues, workflow, advertising and design, color theory, typography, digital photography, and digital file preparation and output. The ethical use of artificial intelligence is woven throughout the course of study. Designing projects allows students to manipulate files and demonstrate mastery of relevant skills.

PHOTOGRAPHY II (11052G1016)
Level: 4 **Credit:** 1.0
Prerequisite(s): Photography I (11052G1015)
Photography II extends the content of Photography I by providing instruction in the use of manual camera settings and the application of advanced photographic techniques and processes. Areas of study include photography and imagery tools, file management, editing and printing, studio skills, lighting techniques, post-production, and business plan development. The exploration of careers in photography is an integral part of this course.

ADVERTISING AND GRAPHIC DESIGN III (11154G1003)
Level: 5 **Credit:** 1.0
Prerequisite(s): Advertising and Graphic Design II (11154G1002)
Advertising and Graphic Design III is the final course in the Advertising and Graphic Design pathway. It provides opportunities for students to pursue software credentials using industry-standard software, create multimedia design campaigns, develop a professional design portfolio, be exposed to professional experience, and explore careers and post-secondary education opportunities in advertising and graphic design.

PHOTOGRAPHY III (11052G1017)
Level: 6 **Credit:** 1.0
Prerequisite(s): Photography I (11052G1016)

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Description. Photography III, the final course in the photography pathway, provides photography students with the opportunity for software credentialing using industry-standard software. The ethical use of artificial intelligence is woven throughout the course of study. Course content requires the creation of a professional-quality photography portfolio and the exploration of photography career opportunities.

CTE LAB: ARTS, A/V, TECH AND COMMUNICATIONS (11197G1002)
Levels: 1-3 **Credit:** 1.0
Prerequisite(s): Introduction to Advertising Design (11051G1001)
This one-credit course is an extended laboratory experience to address the advancement and specialization of careers within Arts, AV Television, and Communication through individualized or small group instruction. This course allows students to enhance the essential and intermediate skills learned through program courses within the career cluster and prepare for industry credentialing opportunities.

SENIOR CAREER PATHWAY PROJECT: ARTS, A/V, TECH AND COMMUNICATIONS (11197G1001))
Level: 4 **Credit:** 1.0
Prerequisite(s): Introduction to Advertising Design (11051G1001), Digital Design (12165G1012), AND Graphic Illustration (12165G1022)
A one-credit course designed for students who have completed a minimum of two career and technical education courses to select an area of interest; engage in in-depth exploration of the area; employ problem-solving, decision-making, and independent learning skills; and present a culminating pathway project before a selected audience.

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Aggie Vision Pathway: Media Production

Television Production provides students with a basic overview of television production skills and professions. Students participate in classroom and laboratory activities regarding all aspects of television performance, production, and operations. Students are also exposed to a variety of real-world learning opportunities through laboratory experiences in photography and editing. Students perform specialized roles in a regularly scheduled television program to include Television Production—Writing, Producing, and Performing, and Television Production—Studio Operations. Students will also work to broadcast all Albertville High School events and extracurricular activities on Aggie Vision.

Career and Technical Student Organization: Skills for Success fee is $20 a year. This amount is due at the beginning of each year in addition to the course fee. There is no waiver.
Course Fees: Each course in the Aggie Vision: Television Production Pathway has a $30 course fee due in the first two weeks of each course.

Career Pathway

Levels 1 & 2	Levels 2 & 3	Level 3 & 4	Additional Courses	Certification Opportunities
Media Production Foundations (11153G1010) Broadcasting Production I (11051G1012	Audio Production I (11051G1010) Broadcasting Production II (11051G1013)	Audio Production II (11051G1011) Senior Career Pathway Project-Arts, A/V, Tech and Communications (11197G1001)	CTE Lab in Arts, A-V Tech, and Comm (11994G1001	• Adobe Certified Associate -Photoshop • Adobe Certified Associate -Premiere Pro • Adobe Certified Associate -Illustrator • Adobe Certified Associate -Dreamweaver • Certified Internet Webmaster Ecommerce • Drone Operator – Skills for Success • FAA Part 107

MEDIA PRODUCTION FOUNDATIONS (REQUIRED FOUNDATION COURSE)(11153G1010)
Level: 1 **Credit:** 1.0
Prerequisite(s): None
A one-credit course that provides students with knowledge of television production skills and operations. Students participate in classroom and laboratory experiences in television performance, production, and operations.

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BROADCASTING PRODUCTION I (11051G1012)
Level: 2 **Credit:** 1.0
Prerequisite(s): Introduction to Television Production (11051G1015)
Broadcasting Production II builds on concepts presented in Broadcasting Production I by providing expanded broadcasting skills and opportunities. Topics include audience research, developing a creative vision for programming, advanced video production techniques, and broadcast journalism. Students will also have the opportunity to work on larger-scale projects and explore their own creative interests within the broadcasting field.

AUDIO PRODUCTIONS I (1105G1010)
Level: 3 **Credit:** 1.0
Prerequisite(s): Introduction to Television Production (11051G1015)
Audio Production II extends the content of Audio Production I to expand students' production skills with emphasis on live recording and real-time audio production. The course covers pre-production and production phases of the recording process in various live audio situations; career preparation; and industry concepts. The course is designed to prepare students for post-secondary study in audio production.

BROADCASTING PRODUCTION II (11051G1013
Level: 4 **Credit:** 1.0
Prerequisite(s): Media Production Foundation & Broadcasting I
Broadcasting Production I presents the basic elements of radio, television, and web-based broadcasting for the dissemination of information or for entertainment through standard journalistic practices. This course expands upon basic concepts in Media Production Foundations with emphasis on scriptwriting, storyboarding, camera and microphone techniques, video and audio editing, and on-camera presentation. Content also includes the history of broadcasting, various broadcast mediums, and the roles and responsibilities of professionals in the industry. The course provides hands-on experience creating and producing broadcast projects in multiple formats and incorporates creativity and important communication and critical thinking skills.

AUDIO PRODUCTIONS II (1105G1011)
Level: 5 **Credit:** 1.0
Prerequisite(s): Media Production Foundation & Audio Productions I
Audio Production II extends the content of Audio Production I to expand students' production skills with emphasis on live recording and real-time audio production. The course covers pre-production and production phases of the recording process in various live audio situations; career preparation; and industry concepts. The course is designed to prepare students for post-secondary study in audio production.

CTE LAB: ARTS, A/V, TECH AND COMMUNICATIONS (11197G1002)
Levels: 1-3 **Credit:** 1.0
Prerequisite(s): Introduction to Television Production (11051G1015)
This one-credit course is an extended laboratory experience to address the advancement and specialization of careers within Arts, AV Television, and Communication through individualized or small group instruction. This course allows students to enhance the essential and intermediate skills learned through program courses within the career cluster and prepare for industry credentialing opportunities.

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SENIOR CAREER PATHWAY PROJECT: ARTS, A/V, TECH AND COMMUNICATIONS (11197G1001))

Level: 5 **Credit:** 1.0

Prerequisite(s): Introduction to Television Production (11051G1015) , Television Production: Studio Operations (11051G1035), Television Production and Editing (11051G1045)

A one-credit course designed for students who have completed a minimum of two career and technical education courses to select an area of interest; engage in in-depth exploration of the area; employ problem-solving, decision-making, and independent learning skills; and present a culminating pathway project before a selected audience.

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Agriscience Pathway: Animal Science

This program is designed to provide students with an understanding of livestock management, veterinary science, poultry science, equine science and food processing.

Career and Technical Student Organization: Future Farmers of America (FFA: Currently, there is no membership fee to join FFA. ALFA Insurance Agency currently pays for all students in Agriscience programs' membership fees. If ALFA does not continue this program FFA memberships dues will be $30 a year. This amount is due at the beginning of each year in addition to the course fee. There is no waiver. Course Fees: Each course in the Agriscience: Animal Science Pathway has a $35 course fee due in the first two weeks of each course.

Career Pathway

Level 1 & 2	Level 3 & 4	Additional Courses	Certification Opportunities
Intro to Veterinary Science (18105G1012) Equine Science (18104G1000)	AgriBiology (3rd and/or 4th Science Credit Eligible) (18004G1001 Veterinary Science (18105G1022)	Career Pathway Project in AFNR (18998G1000) CTE Lab in Agriculture,Food and Natural Resources (18997G1000)	• Adult Beef Quality Assurance (The following three areas required): 1. Cow/Calf 2. Stocker/Backgrounder 3. Feedyard • Aquaculture Training and Online Learning (ATOLL) Aquaculture or Aquaponics • Biotechnician – Skills for Success • Drone Operator – Skills for Success • Elanco Fundamentals of Animal Science Certification • Elanco Veterinary Medical Applications Certification • FAA Part 107 • Forklift – Skills for Success • Skid Steer – Skills for Success • Veterinarian Assistant – Skills for Success

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INTRO TO VETERINARY SCIENCE (18105G1012)
Level: 1 **Credit:** 1.0
Prerequisite(s): NONE
A one-credit course designed to provide students with an introduction to the veterinary science profession. Topics include career opportunities, safety, human treatment, laws and regulations, anatomy and physiology, animal health, and veterinary services.

EQUINE SCIENCE (18104G1000)
Level: 2 **Credit:** 1.0
Prerequisite(s): Intro to Veterinary Science (18105G1012)
Equine Science enables students to become knowledgeable about caring for and managing horses. Topics include safety, history and development, anatomy and physiology, nutrition, health, and selection and conformation. Students also learn about tools, tack, and facilities necessary for the proper care of horses..

AGRIBIOLOGY (3rd or 4th Science Credit Eligible Course) (18004G1001)
Level: 3 **Credit:** 1.0
Prerequisite(s): Intro to Veterinary Science (18105G1012)
Agribiology uses agricultural contexts to present life science content. As students consider practical agricultural concepts, they apply scientific ways of thinking and working to real-life problems. Content may be enhanced by utilizing appropriate technology.

VETERINARY SCIENCE (18105G1022)
Level: 4 **Credit:** 1.0
Prerequisite(s): Intro to Veterinary Science (18105G1012) AND Agribiology (18004G1001)
Fee(s): $35 course fee, $30 FFA dues (paid once a year, first semester - no waiver) $65total
A one-credit course designed to prepare students for entry-level employment or advanced training in the veterinary assisting industry. Emphasis is placed on reproduction, genetics, hormones, growth disorders, animal anesthesiology, basic surgery procedures, health management, business management, and technology.

CTE LAB IN AFNR (18997G1000)
Levels: 1-3 **Credit:** 1.0
Prerequisite(s): Intro to Veterinary Science (18105G1012)
This one-credit course is an extended laboratory experience to address the advancement and specialization of careers within Agriculture, Food and Natural Resources through individualized or small group instruction. This course allows students to enhance the essential and intermediate skills learned through program courses within the career cluster and prepare for industry credentialing opportunities.

CAREER PATHWAY PROJECT IN AFNR (18998G1000)
Level: 4 **Credit:** 1.0
Prerequisite(s): Intro to Veterinary Science (18105G1012)

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Career Pathway Project (CPP) in Agriculture, Food, and Natural Resources is a capstone course designed for career and technical education students who have completed two or more courses in the AFNR career cluster. This course allows students to utilize their secondary coursework through an experience that showcases their learning. It provides an opportunity for a student to choose an area of interest and engage in an in-depth exploration of the area while demonstrating problem-solving, decision-making, and independent learning skills. The CPP contributes to an educational plan of challenging courses and practical experiences that prepares students for the workplace or for pursuing further education.

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Agriscience Pathway: Building and Construction

Career and Technical Student Organization: Future Farmers of America (FFA: Currently, there is no membership fee to join FFA. ALFA Insurance Agency currently pays for all students in Agriscience programs' membership fees. If ALFA does not continue this program FFA memberships dues will be $30 a year. This amount is due at the beginning of each year in addition to the course fee. There is no waiver. Course Fees: Each course in the Agriscience: Building and Construction Pathway has a $35 course fee due in the first two weeks of each course.

Career Pathway

Level 1 & 2	Level 3 & 4	Additional Courses	Certification Opportunities
Introduction to Agriculture Construction (18403G1000) Construction Framing (18004G1001)	Construction Finishing and Interior Systems (18011G1000) Construction Site Preparations and Foundations (18014G1000)	Career Pathway Project in A AFNR (18998G1000) CTE Lab in Agriculture,Food and Natural Resources (18997G1000)	Asphalt Roller – Skills for Success • Biotechnician – Skills for Success • Bulldozer – Skills for Success •Carpentry Helper – Skills for) • Drone Operator – Skills for Success • Electrical Helper – Skills for Success • Excavator Operator- Skills for Success • FAA Part 107 • Forestry Worker Certification • Forklift – Skills for Success • Land Survey Helper – Skills for Success • • Plumbing Helper – Skills for Success • Skid Steer – Skills for Success

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INTRODUCTION TO AGRICULTURE CONSTRUCTION (18403G1000)
Level: 1 **Credit:** 1.0
Prerequisite(s): NONE
Introduction to Agricultural Construction provides students with an overview of framing and building a structure. Topics include lumber, metal, material estimation, floor systems, framing systems (ceiling, wall, roof), and roofing materials for various structures.

CONSTRUCTION FRAMING (18004G1001)
Level: 2 **Credit:** 1.0
Prerequisite(s): Introduction to AG Construction (18403G1000)
A one-credit course designed to facilitate students' understanding of the framing components of a structure. Emphasis is placed on floor systems, wall and ceiling framing, stair construction, and roof framing.

CONSTRUCTION FINISHING AND INTERIOR SYSTEMS (18011G1000)
Level: 3 **Credit:** 1.0
Prerequisite(s): Construction Framing (18004G1001)
A one-credit course designed to provide instruction on the exterior and interior finishing phases of a structure.

CONSTRUCTION SITE PREPARATIONS AND FOUNDATIONS (18014G1000
Level: 4 **Credit:** 1.0
Prerequisite(s): Introduction to AG Construction (18403G1000)
Construction Site Preparation and Foundations is designed to train students in procedures involved in the first phases of construction, including planning and site selection. Topics include structure planning, location, layout and foundations, and concrete and masonry.

CTE LAB IN AFNR (18997G1000)
Levels: 1-3 **Credit:** 1.0
Prerequisite(s): Introduction to AG Construction (18403G1000)
This one-credit course is an extended laboratory experience to address the advancement and specialization of careers within Agriculture, Food and Natural Resources through individualized or small group instruction. This course allows students to enhance the essential and intermediate skills learned through program courses within the career cluster and prepare for industry credentialing opportunities.

CAREER PATHWAY PROJECT IN AFNR (18998G1000)
Level: 4 **Credit:** 1.0
Prerequisite(s): Construction Framing (18004G1001)
Career Pathway Project (CPP) in Agriculture, Food, and Natural Resources is a capstone course designed for career and technical education students who have completed two or more courses in the AFNR career cluster. This course allows students to utilize their secondary coursework through an experience that showcases their learning. It provides an opportunity for a student to choose an area of interest and engage in an in-depth exploration of the area while demonstrating problem-solving, decision-making, and independent learning skills.

Albertville City Schools
CAREER AND TECHNICAL ACADEMIES

The CPP contributes to an educational plan of challenging courses and practical experiences that prepares students for the workplace or for pursuing further education.

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Agriscience Pathway: Plant Science

This program is designed to provide students with an understanding of the greenhouse, horticulture and nursery/landscape industries.

Career and Technical Student Organization: Future Farmers of America (FFA: Currently, there is no membership fee to join FFA. ALFA Insurance Agency currently pays for all students in Agriscience programs' membership fees. If ALFA does not continue this program FFA memberships dues will be $30 a year. This amount is due at the beginning of each year in addition to the course fee. There is no waiver. Course Fees: Each course in the Agriscience: Plant Science Pathway has a $35 course fee due in the first two weeks of each course.

Career Pathway

Level 1 & 2	Level 3 & 4	Level 1-4	Certification Opportunities
Greenhouse & Nursery Production (18052G1002) Plant Biotechnology (3rd and/or 4th Science Credit Eligible) (18308G1002)	Landscape Design & Management (18056G1001) Urban Forestry (18502G1002)	Career Pathway Project in A AFNR (18998G1000) CTE Lab in Agriculture, Food and Natural Resources (18997G1000)	• Biotechnician – Skills for Success • Bulldozer – Skills for Success • Excavator Operator – Skills for Success • Drone Operator – Skills for Success • FAA Part 107 • Forestry Worker Certification • Forklift – Skills for Success • Land Survey Helper – Skills for Success • Nursery & Landscape Worker – Skills for Success • Skid Steer – Skills for Success • Urban Forestry Technician

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GREENHOUSE AND NURSERY PRODUCTION (18052G1002)
Level: 1 **Credit:** 1.0
Prerequisite(s): NONE
Greenhouse and Nursery Production gives students the opportunity to utilize, manage, and maintain facilities and tools and to carry out procedures used in growing plants commercially. The course prepares them to own, manage, or work in greenhouses and plant nurseries. Topics include facilities, growing media, propagation, plant identification, production, pest and disease management, and business management.

PLANT BIOTECHNOLOGY (18308G1002)
Level: 2 **Credit:** 1.0
Prerequisite(s): Greenhouse and Nursery Production (189052G1002)
A one-credit course that provides students with an opportunity to develop an understanding of plant genetics and biotechnology relative to agriculture-related products and services. Emphasis is placed on cellular biology, applied genetics and biotechnology concepts, and social and environmental impacts of biotechnology.

LANDSCAPE DESIGN AND MANAGEMENT (18056G1001)
Level: 3 **Credit:** 1.0
Prerequisite(s): Plant Biotechnology (18308G1002)
Greenhouse and Nursery Production gives students the opportunity to utilize, manage, and maintain facilities and tools and to carry out procedures used in growing plants commercially. The course prepares them to own, manage, or work in greenhouses and plant nurseries. Topics include facilities, growing media, propagation, plant identification, production, pest and disease management, and business management.

URBAN FORESTRY (18502G1002))
Level: 4 **Credit:** 1.0
Prerequisite(s): Greenhouse and Nursery Production (18052G1002) and Landscape Design & Management (18056G1001)
Urban Forestry is designed to enable students to acquire forestry knowledge and skills for use in an urban setting. Topics include safety, climbing and rigging, urban tree management, and tree disorders.

CTE LAB IN AFNR (18997G1000)
Levels: 1-3 **Credit:** 1.0
Prerequisite(s): Greenhouse and Nursery Production (18052G1002)
This one-credit course is an extended laboratory experience to address the advancement and specialization of careers within Agriculture, Food and Natural Resources through individualized or small group instruction. This course allows students to enhance the essential and intermediate skills learned through program courses within the career cluster and prepare for industry credentialing opportunities.

CAREER PATHWAY PROJECT IN AFNR (18998G1000)
Levels: 4 **Credit:** 1.0
Prerequisite(s): Plant Biotechnology (18308G1002)
Career Pathway Project (CPP) in Agriculture, Food, and Natural Resources is a capstone course designed for career and technical education students who have completed two or more courses in the AFNR career cluster.

Albertville City Schools
CAREER AND TECHNICAL ACADEMIES

This course allows students to utilize their secondary coursework through an experience that showcases their learning. It provides an opportunity for a student to choose an area of interest and engage in an in-depth exploration of the area while demonstrating problem-solving, decision-making, and independent learning skills. The CPP contributes to an educational plan of challenging courses and practical experiences that prepares students for the workplace or for pursuing further education.

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CAREER AND TECHNICAL ACADEMIES

Cooperative Education/Work Based Learning

Work-based learning serves to meet industry demands for a more skilled workforce by providing opportunities for students to receive training, learn skills, and gain experience in all aspects of an industry. Work-based learning placements allow students to reflect on their learning processes and experience while aligning academic content with authentic workplace tasks.

The work experiences arranged through Work-Based Learning are based on rigorous academic and employability skill requirements. The work placements and simulated workplace activities include in-depth and hands-on work experiences with activities ranging from career awareness and exploration to in-depth career preparation and training.

Through Work-Based Learning students are able to benefit from mentoring from supervisors, instructors, and their Work-Based Learning coordinator. Participation in Work-Based Learning allows students to develop relationships with industry and community professionals, as well as receive evaluation from workplace supervisors, class instructor, and their coordinator. The mentors and supervisors all receive information and training materials from the coordinator in order to ensure they provide industry-specific support, general career and education guidance, and professional growth opportunities to the students working with them.

Prerequisites

- Eligible 11th and 12th grade students.
- Work-Based Learning will not be placed on a student's schedule until the application process is complete and the student is approved by the Work-Based Learning Coordinator.
- Student is at least 16 years of age.
- It is recommended, but not required, that a student obtains concentrator status (*two courses within a CTE program*) prior to enrollment in cooperative education. Students who have not obtained concentrator status must have successfully completed a minimum of one CTE credit or a career preparedness course.
- Student must have a *clearly defined career objective.*
- Student has an acceptable attendance, grade, and discipline record as validated by the coordinator (*Minimum 2.0 GPA).*
- Possesses the knowledge, skills, behavioral qualities, and abilities required for successful employment.
- Have three educator recommendations that may include the teacher of the career cluster course, if applicable.

Scheduling Requirements of Work-Based Learning

- Students should be scheduled according to the course number below.

COOPERATIVE EDUCATION/WORK-BASED LEARNING (22998G1014)
Grades: 11-12 **Credit:** 1.0
A one-credit work-based experience requiring a minimum of 140 continuous and successful hours of employment performed under the supervision of a workplace mentor and the work-based learning/cooperative education coordinator.

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Cyber Security Pathway

This program introduces students to the broad field of Cyber Security. Students learn multiple numbering systems, become familiar with Microsoft Windows, and LINUX operating systems. They learn networking, vulnerability assessment, and cyber forensics. Students participate in the national CyberPatriot competition. Opportunities also exist for student internships and industry recognized certifications.

Career and Technical Student Organization: Skills for Success fee is $20 a year. This amount is due at the beginning of each year in addition to the course fee. There is no waiver.
Course Fees: Each course in the Cyber Security Pathway has a $30 course fee due in the first two weeks of each course.

Career Pathway

Level 1 & 2	Level 3 &4	Additional Courses	Certification Opportunities
Foundations of Informational Security (10020G1001) Cyber Security I (10020G1011)	Cyber Security II (10020G1012) Cyber Security III (10020G1013)	Career Pathway Project in Information Technology (10997G1002) CTE Lab in Information Technology (10997G1002)	CompTIA Competency in Linux+ • CompTIA Competency in Network+ • CompTIA Competency in Networking with Cisco Devices • CompTIA Competency in Security+ • CompTIA Competency in Tech+ • CompTIA Linux+ • CompTIA Network+ • CompTIA Security+ • CompTIA Tech+ • Drone Operator – Skills for Success • FAA Part 107 •

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FOUNDATIONS OF INFORMATIONAL SECURITY (10020G1001)
Level: I **Credit:** 1.0
Prerequisite(s): NONE
This course introduces students to the field of Cyber Security. Students will become familiar with Microsoft Windows and Linux Operating Systems. They will learn to use multiple numbering systems and how these systems are used in network addressing and operating system configuration. Students will also gain experience in the areas of vulnerability identification, risk assessment, risk mitigation techniques, Wi-Fi security, IP Addressing, and Informational Ethics.

CYBER SECURITY I (10020G1011)
Level: 2 **Credit:** 1.0
Prerequisite(s): Foundations of Informational Security
Cybersecurity I is designed to provide an entry into the quickly growing field of cybersecurity. It focuses on building key concepts and exploring the range and scope of the cybersecurity field. The course also looks at best practices, the importance of maintaining a high level of ethical behavior, the provisions and rationale for government regulations and laws, and the consequences of failure to abide by these rules. The course builds on students' basic knowledge of computers and networks to create a deeper understanding of how computer systems, devices, and other networks are interconnected through secure data networks. This course will continue to help prepare students for industry-level exams.

CYBER SECURITY II (10020G1012)
Level: 3 **Credit:** 1.0
Prerequisite(s): Network Fundamentals (10112G1001) and Cyber Security I (10020G1011)
Cybersecurity II is aimed at providing students with an in-depth look into what it means to be a cybersecurity professional. Emphasis is placed on best practices for secure networking and computing, along with other practical exercises for developing security standards that govern organizational compliance, risk management, access control, and identity management. Students will have the opportunity to prepare for a core industry standard certification exam related to security and can use these techniques, tools, and methodologies to prepare for a career within the cybersecurity field.

CYBER SECURITY III (10020G1013)
Level: 4 **Credit:** 1.0
Prerequisite(s): Network Fundamentals (10112G1001), Cyber Security I (10020G1011), Cyber Security II(10020G1012)
Cybersecurity III is designed to prepare students to enter into the specialized professions of cybersecurity analysis, network penetration testing, cybersecurity forensics, and related careers, including law enforcement support at the local, state, and federal levels. This course highlights the required technical training and aims to prepare students for the appropriate industry certification exams. The course focuses on the frameworks, tools, regulations, and techniques involved in this field along with emphasis on both offensive and defensive security.

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CTE LAB IN INFORMATION TECHNOLOGY (10997G1002)
Levels: 1-4 **Credit:** 1.0
Prerequisite(s): Network Fundamentals (10112G1001)
This one-credit course is an extended laboratory experience to address the advancement and specialization of careers within Information Technology through individualized or small group instruction. This course allows students to enhance the essential and intermediate skills learned through program courses within the career cluster and prepare for industry credentialing opportunities.

SENIOR CAREER PATHWAY PROJECT IN INFORMATION TECHNOLOGY (10997G1001)
Level: 5 **Credit:** 1.0
Prerequisite(s): Network Fundamentals (10112G1001), Cyber Security I (10020G1011), Cyber Security II(10020G1012)
A one-credit course designed for students who have completed a minimum of two career and technical education courses to select an area of interest; engage in in-depth exploration of the area; employ problem-solving, decision-making, and independent learning skills; and present a culminating pathway project before a selected audience.

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Health Science Pathway

The Health Science Program instructional content incorporates project- and problem-based healthcare practices and procedures to demonstrate knowledge and skills fundamental to a variety of healthcare careers. Knowledge and skills are reinforced and enhanced through co-curricular activities and participation in HOSA – Future Health Professionals and work-based learning opportunities that are age and grade appropriate.

Career and Technical Student Organization: Health Occupations Students of America (HOSA) fee is $30 a year. This amount is due at the beginning of each year in addition to the course fee. There is no waiver. Course Fees: Each course in the Medical Professions Pathway has a $40 course fee due in the first two weeks of each course. The Health Science Internship course has a $40 course fee and a mandatory $15 malpractice insurance fee.

Career Pathway

Level 1	Level 2	Level 3	Level 4	Certification Opportunities
Foundations of Health Science (Health Credit Eligible) (14002G1001) Safety and Health Regulations (17049G1000)	Human Body Structures & Functions (3rd and/or 4th Science Credit Eligible) (14299G1001)	Therapeutic Services (14099G1000)) Operating Room Foundations (14056G1000) Medical Terminology)14154G1000) Emergency Medical Services (14055G1010) Intro to Vet Science (18105G1012) Veterinary Science (18105G1022) (Intro to Vet is a mandatory prerequisite)	Health Science Internship (14298G1000) CTE Lab in Health Science (14999G1000)	• Ambulance Operator– Skills for Success • Certified Patient Care Technician/Assistant (CPCTA) • Community Health Worker – Skills for Success • Elanco Veterinary Medical Applications • Lifeguard Certification (American Lifeguard Association or American Red Cross) • Mental Health Worker – Skills for Success • Veterinarian Assistant – Skills for Success

FOUNDATIONS OF HEALTH SCIENCE (14002G1001)
Level 1 **Credit:** 1.0
Prerequisite(s): None
Foundations of Health Science can be substituted for the required Health credit for graduation.

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A one-credit foundational course that introduces students to integrated academics, employability and career development skills, legal and ethical issues, communications, safety, and life skills. This course is a prerequisite to all courses in the Health Science cluster.

SAFETY AND HEALTH REGULATIONS (21106G1013)
Level: 1 **Credit:** 1.0
Prerequisite(s): NONE
A one-credit course designed to provide students with information on the importance of government and industry regulations as well as individual responsibilities for performing activities safely. Students identify common safety hazards found in the workplace and examine their own roles in minimizing and avoiding unsafe practices. Specific topics include flammable and combustible liquids, emergency egress and fire protection, electrical safety, environmental control, machine guarding, tool safety, first aid, hazard communication, personal protective equipment, walking and working surfaces, and material handling and storage. Students will have the opportunity to earn OSHA 30 certifications in this course.

HUMAND BODY STRUCTURES AND FUNCTIONS (14299G1001)
Level: 2 **Credit:** 1.0
Prerequisite(s): Foundations of Health Science (14002G1001)
A one-credit course designed to help students learn care content that emphasizes the structure and functions of cells, tissues, organs, organization of the human body systems, and medical terminology. Scientific processes, problem-based learning and critical thinking are integral parts of the course.

THERAPEUTIC SERVICES (14099G1000)
Level: 3 **Credit:** 1.0
Prerequisite(s): Foundations of Health Science (14002G1001)
A one-credit course that introduces students to occupations and functions in the therapeutic services pathways. Careers in this area include nursing, medicine, physical therapy, surgical technology, respiratory therapy, emergency medical technician, and more.

OPERATING ROOM FOUNDATIONS (14056G1000)
Level: 4 **Credit:** 1.0
Prerequisite(s): Foundation of Health Science (14002G1001)
Operating Room Foundations is a one-credit course that introduces students to the exciting and dynamic world of the operating room, and exposes students to an array of multidisciplinary specialties and concepts within perioperative medicine. Course content focuses on the knowledge and skills needed to promote patient safety and optimize surgical outcomes.
Essential workforce skills and safety will be emphasized, as well as, professional ethics and legal responsibilities. Students will ascertain employability skills and soft skills required by business and industry. Upon successful completion of required theory, lab, and simulation, students may be eligible to sit for Patient Care Technician Certification.

INTRODUCTION TO PHARMACY (14152G1000)
Level: 4 **Credit:** 1.0

Prerequisite(s): Foundation of Health Science (14002G1001)
A one-credit course that introduces students to the pharmaceutical profession. The course covers content related to the history of medicine, mathematics, technology, legal issues, and technical skills.

***SEE ANIMAL SCIENCE FOR COURSE DESCRIPTIONS OF INTRO TO VETERINARY SCIENCE AND VETERINARY SCIENCE**

CTE LAB IN HEALTH SCIENCE (14999G1000)
Level:1-4 **Credit:** 1.0
Prerequisite(s): Foundations of Health Science
This one-credit course is an extended laboratory experience to address the advancement and specialization of careers within Health Science through individualized or small group instruction. This course allows students to enhance the essential and intermediate skills learned through program courses within the career cluster and prepare for industry credentialing opportunities.

HEALTH SCIENCE INTERNSHIP (14298G1000)
Level: 4 **Credit:** 1.0
Prerequisite(s): Foundations of Health Science, Therapeutic Services, and approval of instructor
Also needed for class: school scrub uniform, white shoes, and a watch with a second hand
Students who meet the class requirements and have the instructors' approval participate in internships two days per week at Huntsville Hospital and various local medical facilities. Students will research diagnoses, medications, and treatments. Approved students will have the opportunity to intern in the operating room, emergency room, and special units. Specialized skills such as veterinarian procedures, dental procedures, and suturing will be introduced. Must be able to provide own transportation to internships. REQUIRED PROOF OF: Hepatitis B vaccines, current PPD test, and drug screen.

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CAREER AND TECHNICAL ACADEMIES

Precision Machining Pathway

This career pathway provides specialized classroom and laboratory experiences for students who are entering the field of manufacturing and engineering technology. Instruction is provided in the areas of blueprint reading, safety, bench work, lathe work, millwork, grinding, drill press, and Computer Numerical Control (CNC) programming. Emphasis is given to the use of precision measuring tools and gauges. Course content reflects the National Skills Standards of the National Institute for Metalworking Skills. Hands-on work experiences and SkillsUSA leadership activities enhance classroom instruction.

Career and Technical Student Organization: SkillsUSA fee is $20 a year. This amount is due at the beginning of each year in addition to the course fee. There is no waiver.

Course Fees: Each course in the Precision Machining Pathway has a $40 course fee due in the first two weeks of each course.

Career Pathway

Level 1 & 2	Level 3 & 4	Level 5, 6, & 7	Certification Opportunities
Safety and Health Regulations (17049G1000) Introduction to Mill, Drill Press, and Surface Grinder (13204G1003)	Intermediate Mill and Surface Grinder (13204G1005) Computer Numerical Control (13203G1002)	Computer Numerical Control (13203G1003 CAD and Computer Aided Manufacturing I (13203G1004) AND CAD and Computer Aided Manufacturing II (13203G1005) CTE Lab in Manufacturing (13997G1001)	• OSHEA 30 • NIMS Level 1 Registration • NIMS Level 1 Measurement, Materials, and Safety • NIMS Level 1 Job Planning, Bench work, and Layout • NIMS Level 1 Manual Milling Skills I • NIMS Level 1 Turning Operations: Turning Between Centers • NIMS Level 1 Turning Operations: Turning Chucking Skills • NIMS Level 1 Grinding Skills I • NIMS Level 1 Drill Press Skills I • NIMS Level 1 CNC Turning: Programming Setup and Operations • NIMS Level 1 CNC Milling: Programming Setup and Operations • NIMS Level 1 CNC Turning: Operations • NIMS Level 1 CNC Milling: Operations • Operator Technician – Skills for Success • Forklift Operator – Skills for Success • Machine Operator – Skills for Success

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CAREER AND TECHNICAL ACADEMIES

SAFETY AND HEALTH REGULATIONS (21106G1013)
Level: 1 **Credit:** 1.0
Prerequisite(s): NONE
A one-credit course designed to provide students with information on the importance of government and industry regulations as well as individual responsibilities for performing activities safely. Students identify common safety hazards found in the workplace and examine their own roles in minimizing and avoiding unsafe practices. Specific topics include flammable and combustible liquids, emergency egress and fire protection, electrical safety, environmental control, machine guarding, tool safety, first aid, hazard communication, personal protective equipment, walking and working surfaces, and material handling and storage. Students will have the opportunity to earn OSHA 30 certifications in this course.

INTRODUCTION TO MILL, DRILL PRESS, AND SURFACE GRINDER (13204G1003)
Level: 2 **Credit:** 1.0
Prerequisite(s): Safety and Health Regulations (21106G1013)
Introduction to Mill, Drill Press, and Surface Grinder is a course that introduces students to manufacturing processes and job opportunities for students who are pursuing careers in manufacturing. Students use critical- thinking skills and principles of science, mathematics, and safety. Topics include milling techniques, drill press techniques, and grinding techniques. Career and technical student organizations, SkillsUSA are integral, co- curricular components of each career and technical education course. NIMS (National Institute for Metal Working Skills) credentials can be earned while enrolled in this course.

INTERMEDIATE MILL AND SURFACE GRINDER (13204G1005)
Level: 3 **Credit:** 1.0
Prerequisite(s): Introduction to Mill, Drill Press, and Surface Grinder (21106G1013)
Intermediate Mill and Surface Grinder is a course that introduces manufacturing processes and job opportunities for students who are pursuing careers in manufacturing. Students use critical-thinking skills and principles of science, mathematics, and safety. Topics include instructions in advanced milling and grinding operations.
Student instruction in manufacturing reflects the skill standards of the National Institute for Metalworking Skills (NIMS). Career and technical student organizations, SkillsUSA are integral, co-curricular components of each career and technical education course. NIMS (National Institute for Metal Working Skills) credentials can be earned while enrolled in this course.

INTRODUCTION TO COMPUTER NUMERICAL CONTROL (13203G1002)
Level: 4 **Credit:** 1.0
Prerequisite(s): Intermediate Mill and Surface Grinder (13203G1002)
Introduction to Computer Numerical Control (CNC) is a course that introduces manufacturing processes and job opportunities for students who are pursuing careers in manufacturing. Students use critical-thinking skills and principles of science, mathematics, and safety. Topics include CNC programming and CNC operations.
Standards are based on the National Institute for Metalworking Skills (NIMS) Level I CNC Mill and NIMS Level I CNC Lathe. Career and technical student organizations, SkillsUSA are integral, co-curricular components of each career and technical education course. NIMS (National Institute for Metal Working

Skills) credentials can be earned while enrolled in this course.

INTERMEDIATE COMPUTER NUMERICAL CONTROL (13203G1003)
Level: 5 **Credit:** 1.0
Prerequisite(s): Introduction to Computer Numerical Control (13203G1002)
Intermediate Computer Numerical Control (CNC) is a course that introduces students to manufacturing processes and job opportunities for students who are pursuing careers in manufacturing. Students use critical- thinking skills and principles of science, mathematics, and safety. Topics include advanced CNC programming, setup, and proper operations. Students receive instructions regarding the skills standards of the National Institute for Metalworking Skills (NIMS). Career and technical student organizations, SkillsUSA are integral, co-curricular components of each career and technical education course. NIMS (National Institute for Metal Working Skills) credentials can be earned while enrolled in this course.

CAD AND COMPUTER AIDED MANUFACTURING I (13203G1004)
Level: 6 **Credit:** 1.0
Prerequisite(s): Intermediate Computer Numerical Control (13203G1004)
Computer-Aided Design and Computer-Aided Manufacturing (CAD-CAM) I is a course that introduces manufacturing processes and job opportunities for students who are pursuing careers in manufacturing. Students use critical-thinking skills and principles of science, mathematics, and safety. Topics include CAD-CAM safety, mathematic concepts, computer proficiency, programming CAM software, manufacturing of parts, and creating a two-dimensional design. Career and technical student organizations, SkillsUSA are integral, co-curricular components of each career and technical education course.

CAD AND COMPUTER AIDED MANUFACTURING II (13203G1005)
Level:7 **Credit:** 1.0
Prerequisite(s): CAD and Computer Aided Manufacturing I (13203G1004)
Computer-Aided Design and Computer-Aided Manufacturing (CAD-CAM) II is a course that introduces. manufacturing processes and job opportunities for students who are pursuing careers in manufacturing. Students use critical-thinking skills and principles of science, mathematics, and safety. Topics include CAD-CAM safety, advanced mathematics concepts, CADCAM project development, computer numerical control (CNC) mill and lathe procedures, three-dimensional tool path operations, and verification. Career and technical student organizations, SkillsUSA are integral, co-curricular components of each career and technical education course.

CTE LAB – MANUFACTURING (13997G1001)
Levels: 1-5 **Credit:** 1.0
Prerequisite(s): Safety and Health Regulations (21106G1013)
CTE Lab in Manufacturing is designed to enhance the student's general understanding and mastery of the cluster. This course is designed as a learning laboratory to support students' individual interests and goals. This laboratory may take place in a traditional classroom, in an industry setting, or in a virtual learning environment. This course may be taken in any program within the Manufacturing cluster.

CAREER PATHWAY PROJECT – MANUFACTURING (13997G1003)

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Level: 6,7 **Credit:** 1.0
Prerequisite(s): Introduction to Computer Numerical Control (13203G1002)
Career Pathway Project (CPP) in Manufacturing is a capstone course designed for career and technical education students who have completed two or more courses in the Manufacturing career cluster. This course allows students to utilize their secondary coursework through an experience that showcases their learning. It provides an opportunity for a student to choose an area of interest and engage in an in-depth exploration of the area while demonstrating problem-solving, decision-making, and independent-learning skills. The CPP contributes to an educational plan of challenging courses and practical experiences that prepares students for the workplace or for pursuing further education. This course may be taken in any program within the Manufacturing cluster.

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Teaching and Training Pathway

This program provides students with knowledge and skills needed for teaching and professional training consultant careers. Courses provide an overview of teaching and learning theories; curriculum development; teaching techniques; instructional resources and the use of technology; types of assessments; classroom management strategies; and ethics and professionalism.

Career and Technical Student Organization: Family Career Community Leaders of America (FCCLA) fee is $15 a year, and Future Teachers of Alabama (FTA) is $15 a year . This amount is due at the beginning of each year in addition to the course fee. There is no waiver.
Course Fees: Each course in the Teaching and Training Pathway has a $20 course fee due in the first two weeks of each course.

Career Pathway

Level 1 & 2	Level 2 & 3	Level 4 & 5	Additional Courses	Certification Opportunities
Foundations in Education and Training (Required Foundation Course) (19151G1001) Practices in Education (19152G1001)	Early Childhood Education (19153G1030 Methods in Education (19152G1002)	Communication for Leaders (19151G1002) Education Training and Internship (19198G1000)	CTE Lab in Education and Training (19197G1002)	• Alabama Educator Certification Assessment Program (AECAP) Basic Skills • ETS Praxis Core Academic Skills • Athens State University Education and Training Certification • Google Educator, Levels 1 & 2 • Mastering the Customer Experience – Skills for Success • Customer Service – Skills for Success

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FOUNDATIONS IN EDUCATION AND TRAINING (REQUIRED FOUNDATION COURSE) (1915G1001)
Level: 1 **Credit:** 1.0
Prerequisite(s): None
Foundations in Education is the foundational course for both the Educators in Training and the Early Childhood Education programs. It presents a broad overview of the work of education professionals, the history of education, the roles and responsibilities of educators, strategies for creating and presenting engaging lessons and activities, methods of measuring student progress, and the domains of development. Foundations in Education is the gateway to specialized courses and internship opportunities in the Education and Training cluster.

PRACTICES IN EDUCATION (19152G1001)
Level: 2 **Credit:** 1.0
Prerequisite(s): Foundations in Education and Training (19151G1001)
Practices in Education is designed to equip students with the skills and strategies necessary for providing effective classroom instruction. This course explores the following key topics: community partners and resources, teaching standards, characteristics of professionalism, professional organizations, instructional strategies, and planning and delivery of instruction. The course content is intended to give students a deeper understanding of the practice of teaching and to provide skills they can apply across many fields..

EARLY CHILDHOOD EDUCATIOIN (19153G1030)
LEVEL: 3 **Credit:** 1.0
Prerequisite(s): Foundations in Education and Training (19151G1001)
Early Childhood Education is designed to introduce students to the concepts and skills needed to pursue a career educating children from birth through age five. It focuses on seven key topics vital to early childhood education: human development, health and safety, learning environment, classroom practices, observation and assessment, professionalism, and program management. Within each of these topics, the course presents the science of child development and provides opportunities for students to apply skills that will prepare them for working with young children. Access to an early childhood education facility with children is required for students to develop essential skills for teaching children.

METHODS IN EDUCATION (19152G1002)
Level: 4 **Credit:** 1.0
Prerequisite(s): Foundations in Education and Training (19151G1001)
Methods in Education focuses on the role of educators as facilitators of learning. Students will explore the methods and strategies that enhance learning, as well as current trends in education and instructional technology. This course strongly emphasizes the sciences of literacy and numeracy. Students will apply their learning in the classroom and create research-based lessons and activities for a variety of populations.

COMMUNICATION FOR LEADERS (19151G1002)
Level: 5 **Credit:** 1.0
Prerequisite(s): Foundations in Education and Training (19151G1001)
Communication for Leaders is designed to introduce students to the essential skills needed in leadership roles. The course focuses on communication, professionalism, leadership, and advocacy as the core competencies needed to lead effectively. Throughout this course, students will have opportunities to apply these skills across

multiple disciplines.

EDUCATION AND TRAINING INTERNSHIP (19198G1000)
Level 6: **Credit:** 1.0
Prerequisite(s): Methods in Education (19152G1002) and approval of instructor
A one-credit course designed for students interested in pursuing an internship experience in an educational field. Students who have completed Teaching II are eligible to enroll in the Education and Training Internship. A school-based laboratory (actual classroom providing grade level subject-matter instruction) is required for the internship.

CTE LAB IN EDUCATION AND TRAINING
Level: 1-4 **Credit:** 1.0
Prerequisite(s): Foundations in Education and Training (19151G1001)
This one-credit course is an extended laboratory experience to address the advancement and specialization of careers within Education and Training through individualized or small group instruction. This course allows students to enhance the essential and intermediate skills learned through program courses within the career cluster and prepare for industry credentialing opportunities.

CAREER PATHWAY PROJECT IN EDUCATION AND TRAINING
Level: 5 & 6 **Credit:** 1.0
Prerequisite(s): Methods in Education (19152G1002)
Career Pathway Project (CPP) in Education and Training is a capstone course which allows students to utilize the knowledge and skills gained through their secondary coursework in a practical, real-world experience that showcases their learning. It provides an opportunity for a student to choose an area of interest and explore it in depth while demonstrating problem-solving, decision-making, and independent learning skills. The CPP contributes to an educational plan of challenging courses and practical experiences that prepare students for the workplace or for pursuing further education.

Albertville City Schools
CAREER AND TECHNICAL ACADEMIES

Welding Pathway

This career pathway provides students with a fundamental understanding of blueprint reading, weld symbols and weld joints, rules for safety, and identification of shop equipment. Students acquire knowledge for safe operation of oxy-fuel cutting and shielded metal arc welding processes. Upon completion of this course, students are able to interpret lines, views, and dimensions of weld joint configurations and weld symbols; identify oxy-fuel cutting equipment and components; determine proper setup of equipment for application; identify safety hazards and welding equipment related to shielded metal arc welding; and make quality welds with E-6010 and E-7018 electrodes in the flat, horizontal, vertical, and overhead positions. During the second year of enrollment, students will learn basic principles and applications of M.I.G. welding and G.T.A.W. process, including machine operation and control, electrode selection and care, filler rod types, and regulator settings. They will also learn how to determine the type of power source required which includes type of current and polarity, selection of gas type and gas flow rates, torches, and electrodes.

Career and Technical Student Organization: SkillsUSA fee is $20 a year. This amount is due at the beginning of each year in addition to the course fee. There is no waiver.
Course Fees: Each course in the Welding Pathway has a $60 course fee due in the first two weeks of each course.

Career Pathway

Level 1 & 2	Level 3 &4	Level 5	Additional Courses	Certification Opportunities
Safety and Health Regulations (17049G1000) Welding SMAW I (13207G1001)	Welding SMAW II (13207G1002) Welding GMAW and FCAW (13207G1003)	Project Management (12002G1003) Career Pathway Project (17047G1001)	CTE Lab in Architecture and Construction (17017G1000)	• AWS Certifications (one or more areas) • SMAW 3-G uphill progression D1.1 • GTAW 3-G uphill progression (steel) • FCAW 3-G uphill progression D1.1 • GTAW 3-G uphill progression (aluminum) D1.2 • GMAW 3-G uphill progression D1.1 • OSHEA 30 • Skid Steer – Skills for Success • Asphalt Roller – Skills for Success • Excavator – Skills for Success • Bulldozer – Skills for Success

Albertville City Schools
CAREER AND TECHNICAL ACADEMIES

SAFETY AND HEALTH REGULATIONS (21106G1013)
Level: 1 **Credit:** 1.0
Prerequisite(s): NONE
A one-credit course designed to provide students with information on the importance of government and industry regulations as well as individual responsibilities for performing activities safely. Students identify common safety hazards found in the workplace and examine their own roles in minimizing and avoiding unsafe practices. Specific topics include flammable and combustible liquids, emergency egress and fire protection, electrical safety, environmental control, machine guarding, tool safety, first aid, hazard communication, personal protective equipment, walking and working surfaces, and material handling and storage. Students will have the opportunity to earn OSHA 30 certifications in this course.

WELDING SMAW I (13207G1001)
Level: 2 **Credit:** 1.0
Prerequisite(s): Safety and Health Regulations (21106G1013)
Welding: SMAW I is designed to provide a fundamental understanding of welding safety and basic shielded metal arc welding (SMAW) equipment and procedures. Standards are designed to equip students with knowledge and skills for setting up equipment, preparing surfaces, and performing safe oxy-fuel cutting and welding.

WELDING SMAW II (13207G1002)
Level: 3 **Credit:** 1.0
Prerequisite(s): Welding SMAW I (13207G1001)
Welding: SMAW II presents information and skills needed to weld pipes and plates of various kinds. Topics include SMAW open-root pipe welds, plate welding, and stainless steel and carbon steel welding. The course also incorporates information about gas tungsten arc (tungsten inert gas) welding.

WELDING GMAW AND FCAW (13207G1003)
Level: 4 **Credit:** 1.0
Prerequisite(s): Welding SMAW II (13207G1002)
Welding: GMAW and FCAW introduces metal arc and flux-cored arc welding processes. Emphasis is placed on safe operating practices, handling, and storage of compressed gasses. Process principles, component identification, various welding techniques, and base and filler metal identification are introduced. This course aims to prepare students to perform GMAW and FCAW welds in various positions.

PROJECT MANAGEMENT (12002G1003)
Level: 4 **Credit:** 1.0
Prerequisite(s): Welding GMAW and FCAW
Project Management is designed to introduce students to the myriad facets of Program and Project Management, test the character of each student as they juggle the complexities and conflicting demands, and initiate the development of difficult decision-making, for a successful program.

CTE LAB: ARCHITECTURE AND CONSTRUCTION (17017G1000)
Levels: 1-3 **Credit:** 1.0
Prerequisite(s): Safety and Health Regulations (21106G1013)

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CAREER AND TECHNICAL ACADEMIES

This one-credit course is an extended laboratory experience to address the advancement and specialization of careers within Architecture and Construction through individualized or small group instruction. This course allows students to enhance the essential and intermediate skills learned through program courses within the career cluster and prepare for industry credentialing opportunities.

CAREER PATHWAY PROJECT: ARCHITECTURE AND CONSTRUCTION (17017G1000)
Level: 5 **Credit:** 1.0
Prerequisite(s): Welding SMAW II (13207G1002)
Career Pathway Project in Architecture and Construction is a capstone course designed for students who have completed two or more Career and Technical Education credits in the Architecture and Construction Career Cluster. This course allows students to utilize the knowledge and skills gained through their secondary coursework in a practical, real-world experience that showcases their learning. It provides an opportunity for a student to choose an area of interest and explore it in depth while demonstrating problem-solving, decision-making, and independent-learning skills. The CPP contributes to an educational plan of challenging courses and practical experiences that prepares students for the workplace or for pursuing further education.