

Adair County High School

**Career and Technical Education
Pathways**

2017-2018

Table of Contents

Agriculture.....	1
Animal Science Systems Pathway	1
Horticulture and Plant Science Pathway.....	2
Business	3
Accounting Pathway	3
Administrative Support Pathway	4
Financial Services Pathway	5
Computerized Manufacturing & Machining	6
CNC Operator Pathway	6
CNC Programmer Pathway	7
Machinist Operator Pathway	8
Machinist Technician Pathway	9
Construction Carpentry Technology.....	10
Finish Carpenters Assistant Pathway.....	10
Residential Carpenter Assistant Pathway	11
Electrical Technology	12
Residential Electrician Pathway	12
Family and Consumer Sciences	13
Consumer and Family Management Pathway	13
Fundamentals of Teaching Pathway	14
Flight and Aviation.....	15
Flight & Aeronautics Pathway.....	15
Health Sciences.....	16
Allied Health Pathway	16
Emergency Medical Technician (EMT).....	17
Pre-Nursing Pathway	18
Industrial Maintenance	19
Fluid Power Mechanic Pathway.....	19
Maintenance Mechanic Pathway	20
Information Technology	21
Computer Science Pathway	21
Junior Guard	22
Junior Guard Pathway	22
Media Arts.....	23
Cinematography and Video Production Pathway.....	23
Transportation Education.....	24
Automotive Maintenance and Light Repair Pathway	24
Welding Technology.....	25
Welder-Entry Level Pathway.....	25
Gas Metal Arc Welder Pathway	26
Shielded Metal Arc Welder Pathway	27
Additional Advanced and Elective Courses.....	28

Agriculture

Animal Science Systems Pathway

Pathway Description: This program that focuses on the scientific principles that underline the breeding, care, and management of agricultural animals, and the production, processing, and distribution of agricultural animal products. This includes developing better, more efficient ways of producing and processing meat, poultry, eggs and dairy products, as well as studying genetics, nutrition, reproduction, growth and development of animals.

Related Career Fields	<ul style="list-style-type: none"> • Veterinarian • Animal Scientist 	<ul style="list-style-type: none"> • Marine Biologist • Zoologist 	<ul style="list-style-type: none"> • Horse Trainer • Animal Breeder 	<ul style="list-style-type: none"> • Farmer • Veterinary Tech.
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Required Courses	Elective Courses
1. Principles of Agricultural Science and Technology 2. Agriscience 3. Animal Science 4. Animal Technology	<ul style="list-style-type: none"> • Ag. Education Co-Op • Ag. Employability Skills • MSU Adv. Animal Science • MSU Intro. to Pre-Vet Science • Veterinary Science

Sample Four-Year Schedule

Freshman	Sophomore	Junior	Senior
<ul style="list-style-type: none"> • English I • Algebra I • Integrated Science • Intro. to Social Studies • Health / P.E. 	<ul style="list-style-type: none"> • English II • Geometry • Biology I • World History • Arts and Humanities 	<ul style="list-style-type: none"> • English III • Algebra II • Science Elective or Chemistry or Physics* • American History • Elective or World Language* 	<ul style="list-style-type: none"> • English IV • Senior Math • Elective or World Language* • Elective
<ul style="list-style-type: none"> • Principles of Ag / Agriscience 	<ul style="list-style-type: none"> • Animal Science / Animal Technology 	<ul style="list-style-type: none"> • Veterinary Science / Ag. Elective 	<ul style="list-style-type: none"> • Ag. Employability Skills • Ag. Education Co-Op

*Two years of world language and Chemistry or Physics are required for the pre-college curriculum.

Note: If you took Algebra I, English I, or Integrated Science during your 8th grade year, you will take the next math, English, or science course available your Freshman and following years.

Agriculture

Horticulture and Plant Science Pathway

Pathway Description: This program focuses on the scientific principles that underlie the breeding, cultivation, and production of agricultural plants, and the production, processing, and distribution of agricultural plant products. Includes instruction in the plant sciences, crop cultivation and production, and agricultural and food products processing.

Related Career Fields	<ul style="list-style-type: none"> <li style="margin-right: 10px;">• Horticulturist <li style="margin-right: 10px;">• Landscaper <li style="margin-right: 10px;">• Scientist <li style="margin-right: 10px;">• Nursery/Greenhouse Grower <li style="margin-right: 10px;">• Agronomist <li style="margin-right: 10px;">• Farmer <li style="margin-right: 10px;">• Landscape Architect • Botanist
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Required Courses	Elective Courses
1. Principles of Agricultural Science and Technology 2. Agriscience 3. Landscaping/Turf Management 4. Greenhouse Technology	<ul style="list-style-type: none"> • Ag. Education Co-op • Ag. Employability Skills • Nursery/Orchard Technology • Plant/Land Science • Special Topics in Horticulture

Sample Four-Year Schedule

Freshman	Sophomore	Junior	Senior
<ul style="list-style-type: none"> • English I • Algebra I • Integrated Science • Intro. to Social Studies • Health / P.E. 	<ul style="list-style-type: none"> • English II • Geometry • Biology I • World History • Arts and Humanities 	<ul style="list-style-type: none"> • English III • Algebra II • Science Elective or Chemistry or Physics* • American History • Elective or World Language* 	<ul style="list-style-type: none"> • English IV • Senior Math • Elective or World Language* • Elective
<ul style="list-style-type: none"> • Principles of Ag / Agriscience 	<ul style="list-style-type: none"> • Landscaping/Turf Mgt. / Greenhouse Tech 	<ul style="list-style-type: none"> • Nursery/Orchard Tech / Spec. Topics in Hort. 	<ul style="list-style-type: none"> • Ag. Employability Skills • Ag. Education Co-Op

*Two years of world language and Chemistry or Physics are required for the pre-college curriculum.

Note: If you took Algebra I, English I, or Integrated Science during your 8th grade year, you will take the next math, English, or science course available your Freshman and following years.

Business

Accounting Pathway

Pathway Description: A program that prepares individuals to practice the profession of accounting and to perform related business functions. Includes instruction in accounting principles and theory, financial accounting, managerial accounting, cost accounting, budget control, tax accounting, legal aspects of accounting, auditing, reporting procedures, statement analysis, planning and consulting, business information systems, accounting research methods, professional standards and ethics, and applications to specific for-profit, public, and non-profit organizations.

Related Career Fields	• Accountant	• Planner	• Auditor	• Budget Analyst
	• Forensic Accountant	• Tax Preparer	• Auditing Clerk	• Tax Examiner

Required Courses	Elective Courses
1. Digital Literacy 2. Financial Literacy 3. Accounting & Finance Foundations 4. Financial Accounting	• Office Administration (formerly Adv. Comp. Apps.) • Business Education Co-op

Sample Four-Year Schedule

Freshman	Sophomore	Junior	Senior
<ul style="list-style-type: none"> English I Algebra I Integrated Science Intro. to Social Studies Health / P.E. 	<ul style="list-style-type: none"> English II Geometry Biology I World History Arts and Humanities 	<ul style="list-style-type: none"> English III Algebra II Science Elective or Chemistry or Physics* American History Elective or World Language* 	<ul style="list-style-type: none"> English IV Senior Math Elective or World Language* Elective Elective
<ul style="list-style-type: none"> Digital Literacy / Financial Literacy 	<ul style="list-style-type: none"> Acct. & Fin. Found. 	<ul style="list-style-type: none"> Financial Acct. 	<ul style="list-style-type: none"> Business Elective

**Two years of world language and Chemistry or Physics are required for the pre-college curriculum.*

Note: If you took Algebra I, English I, or Integrated Science during your 8th grade year, you will take the next math, English, or science course available your Freshman and following years.

If you took Digital Literacy or Financial Literacy during your 8th grade year, you will take the next course available your Freshman and following years.

Business

Administrative Support Pathway

Pathway Description: A program that generally prepares individuals to perform the duties of administrative assistants and/or secretaries and stenographers. Includes instruction in business communications, principles of business law, word processing and data entry, office machines operation and maintenance, office procedures, public relations, secretarial accounting, filing systems and records management, and report preparation.

Related Career Fields	<ul style="list-style-type: none"> • Administrative Assistant • Human Resources Specialist 	<ul style="list-style-type: none"> • Bookkeeper • Court Reporter 	<ul style="list-style-type: none"> • Billing & Accounts Collector
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Required Courses	Elective Courses
1. Digital Literacy 2. Financial Literacy 3. Office Administration (formerly Adv. Comp. Apps.) 4. Business Education Co-op	<ul style="list-style-type: none"> • Accounting and Finance Foundations • Financial Accounting

Sample Four-Year Schedule

Freshman	Sophomore	Junior	Senior
<ul style="list-style-type: none"> • English I • Algebra I • Integrated Science • Intro. to Social Studies • Health / P.E. 	<ul style="list-style-type: none"> • English II • Geometry • Biology I • World History • Arts and Humanities 	<ul style="list-style-type: none"> • English III • Algebra II • Science Elective or Chemistry or Physics* • American History • Elective or World Language* 	<ul style="list-style-type: none"> • English IV • Senior Math • Elective or World Language* • Elective
<ul style="list-style-type: none"> • Digital Literacy / Financial Literacy 	<ul style="list-style-type: none"> • Business Elective 	<ul style="list-style-type: none"> • Business Elective 	<ul style="list-style-type: none"> • Office Administration • Business Ed. Co-op

*Two years of world language and Chemistry are required for the pre-college curriculum.

Note: If you took Algebra I, English I, or Integrated Science during your 8th grade year, you will take the next math, English, or science course available your Freshman and following years.

If you took Digital Literacy or Financial Literacy during your 8th grade year, you will take the next course available your Freshman and following years.

Business

Financial Services Pathway

Pathway Description: This pathway prepares individuals to perform a wide variety of customer services in banks, insurance agencies, savings and loan companies, and related enterprises. Includes instruction in communications and public relations skills, business equipment operation, and technical skills applicable to the methods and operations of specific financial or insurance services.

Related Career Fields	<ul style="list-style-type: none"> • Account Mgr. • Appraiser • Bank Teller 	<ul style="list-style-type: none"> • Bookkeeper • Entrepreneur • Investment Advisor 	<ul style="list-style-type: none"> • Investment Banker • Loan officer • Money Manager 	<ul style="list-style-type: none"> • Mortgage Broker • Sales Representative • Tax Preparer
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Required Courses	Elective Courses
1. Digital Literacy 2. Financial Literacy 3. Financial Services I 4. Accounting and Finance Foundations	<ul style="list-style-type: none"> • Business Education Co-op • Financial Accounting • Financial Services II • Office Administration (formerly Adv. Comp. Apps.)

Sample Four-Year Schedule

Freshman	Sophomore	Junior	Senior
<ul style="list-style-type: none"> • English I • Algebra I • Integrated Science • Intro. to Social Studies • Health / P.E. 	<ul style="list-style-type: none"> • English II • Geometry • Biology I • World History • Arts and Humanities 	<ul style="list-style-type: none"> • English III • Algebra II • Science Elective or Chemistry or Physics* • American History • Elective or World Language* 	<ul style="list-style-type: none"> • English IV • Senior Math • Elective or World Language* • Elective • Elective
<ul style="list-style-type: none"> • Digital Literacy / Financial Literacy 	<ul style="list-style-type: none"> • Acct. & Fin. Found. 	<ul style="list-style-type: none"> • Financial Services I / Financial Services II 	<ul style="list-style-type: none"> • Business Elective

*Two years of world language and Chemistry or Physics are required for the pre-college curriculum.

Note: If you took Algebra I, English I, or Integrated Science during your 8th grade year, you will take the next math, English, or science course available your Freshman and following years.

If you took Digital Literacy or Financial Literacy during your 8th grade year, you will take the next course available your Freshman and following years.

Computerized Manufacturing & Machining

CNC Operator Pathway

Lake Cumberland ATC

Pathway Description: CNC operators monitor and operate CNC (computer numerically controlled) machines to cut metal and plastic parts for the manufacturing industry. They select and download CNC programs and perform test operations to ensure the product is made to specifications. The CNC operator may be responsible for selecting and setting all tools required for producing the final precision part to customer specifications.

Related Career Fields	<ul style="list-style-type: none"> • Machine Operator • Machinist Technician • Machinist 	<ul style="list-style-type: none"> • Maintenance Machinist • CNC Programmer 	<ul style="list-style-type: none"> • Quality Control Manager • Mech. Engineer 	<ul style="list-style-type: none"> • Engineer Tech. • Industrial Engineer
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Required Courses	Elective Courses
1. Fundamentals of Machine Tools-A 2. Fundamentals of Machine Tools-B 3. Manual Programming 4. CAD/CAM/CNC	<ul style="list-style-type: none"> • Co-Op (Machine Tool)

Sample Four-Year Schedule

Freshman	Sophomore	Junior	Senior
<ul style="list-style-type: none"> • English I • Algebra I • Integrated Science • Intro. to Social Studies • Health / P.E. • Arts and Humanities 	<ul style="list-style-type: none"> • English II • Geometry • Biology I • World History • Comp. Manuf. Course • Comp. Manuf. Course 	<ul style="list-style-type: none"> • English III • Algebra II • Science Elective or Chemistry or Physics* • American History • Elective or World Language* • Comp. Manuf. Course • Comp. Manuf. Course 	<ul style="list-style-type: none"> • English IV • Senior Math • Elective or World Language* • Elective • Elective • Comp. Manuf. Course • Comp. Manuf. Course

*Two years of world language and Chemistry or Physics are required for the pre-college curriculum.

Note: If you took Algebra I, English I, or Integrated Science during your 8th grade year, you will take the next math, English, or science course available your Freshman and following years.

Computerized Manufacturing & Machining

CNC Programmer Pathway

Lake Cumberland ATC

Pathway Description: CNC programmers develop and run programs which direct the CNC machines to cut and shape metal or plastic for such things as airplanes, automobiles and other industrial machines. CNC programmers use blueprints and 3-dimensional computer designs to create the programs which result in precisely cut products. Attention to detail and the ability to follow precise directions are vital to a CNC programmer as well as the ability to work independently.

Related Career Fields	• Machine Operator	• Maint. Machinist	• Quality Control	• Engineer Tech.
	• Machinist Technician	• CNC Machine Operator	• Manager	• Industrial
	• Machinist	• CNC Programmer	• Mech. Engineer	• Engineer

Required Courses	Elective Courses
1. Introduction to Computer Aided Drafting 2. Fundamentals of Machine Tools-A 3. Manual Programming 4. CAD/CAM/CNC	• Co-Op (Machine Tool)

Sample Four-Year Schedule

Freshman	Sophomore	Junior	Senior
<ul style="list-style-type: none"> • English I • Algebra I • Integrated Science • Intro. to Social Studies • Health / P.E. • Arts and Humanities 	<ul style="list-style-type: none"> • English II • Geometry • Biology I • World History • Comp. Manuf. Course • Comp. Manuf. Course 	<ul style="list-style-type: none"> • English III • Algebra II • Science Elective or Chemistry or Physics* • American History • Elective or World Language* • Comp. Manuf. Course • Comp. Manuf. Course 	<ul style="list-style-type: none"> • English IV • Senior Math • Elective or World Language* • Elective • Elective • Comp. Manuf. Course • Comp. Manuf. Course

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Note: If you took Algebra I, English I, or Integrated Science during your 8th grade year, you will take the next math, English, or science course available your Freshman and following years.

Computerized Manufacturing & Machining

Machinist Operator Pathway

Lake Cumberland ATC

Pathway Description: Machine operators are responsible for producing precision machined parts. They measure parts with precision tools in order to make sure certain parts meet pre-determined quality and cosmetic standards. When parts have passed inspection, the parts go on to the next phase of production. Machine operators are expected to meet production quotas. The level of documentation required varies, depending on the degree of precision needed for the finished product. Machine operators also need to keep track of the number of units that are scrapped due to various errors.

Related Career Fields	<ul style="list-style-type: none"> • Machinist Technician • Machinist • Maintenance Machinist 	<ul style="list-style-type: none"> • CNC Machine Operator • CNC Programmer 	<ul style="list-style-type: none"> • Quality Control Manager • Mech. Engineer 	<ul style="list-style-type: none"> • Engineer Tech. • Industrial Engineer
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Required Courses	Elective Courses
1. Fundamentals of Machine Tools-A 2. Fundamentals of Machine Tools-B 3. Applied Machining - I 4. Introduction to Computer Aided Drafting	<ul style="list-style-type: none"> • Applied Machining - II • Blueprint Reading for Machinists • Co-Op (Machine Tool) • Manual Programming • Mechanical Blueprint Reading

Sample Four-Year Schedule

Freshman	Sophomore	Junior	Senior
<ul style="list-style-type: none"> • English I • Algebra I • Integrated Science • Intro. to Social Studies • Health / P.E. • Arts and Humanities 	<ul style="list-style-type: none"> • English II • Geometry • Biology I • World History • Comp. Manuf. Course • Comp. Manuf. Course 	<ul style="list-style-type: none"> • English III • Algebra II • Science Elective or Chemistry or Physics* • American History • Elective or World Language* • Comp. Manuf. Course • Comp. Manuf. Course 	<ul style="list-style-type: none"> • English IV • Senior Math • Elective or World Language* • Elective • Elective • Comp. Manuf. Course • Comp. Manuf. Course

*Two years of world language and Chemistry or Physics are required for the pre-college curriculum.

Note: If you took Algebra I, English I, or Integrated Science during your 8th grade year, you will take the next math, English, or science course available your Freshman and following years.

Computerized Manufacturing & Machining

Machinist Technician Pathway

Lake Cumberland ATC

Pathway Description: Machinist Technicians set up and operate a variety of machine tools, such as lathes, milling machines, and grinders, to produce precision metal parts, instruments, and tools. These tools are either manually controlled or computer-numerically controlled (CNC). Machinist Technicians must be able to read blueprints, align and adjust cutting tools and inspect the finished product to meet customer specifications.

Related Career Fields	<ul style="list-style-type: none"> • Machine Operator • Machinist • Maintenance Machinist 	<ul style="list-style-type: none"> • CNC Machine Operator • CNC Programmer 	<ul style="list-style-type: none"> • Quality Control Manager. • Mech. Engineer 	<ul style="list-style-type: none"> • Engineer Tech. • Industrial Engineer
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Required Courses	Elective Courses
1. Fundamentals of Machine Tools-A 2. Fundamentals of Machine Tools-B 3. Applied Machining - I 4. Introduction to Computer Aided Drafting	<ul style="list-style-type: none"> • Applied Machining - II • Manual Programming • Mechanical Blueprint Reading • Co-Op (Machine Tool)

Sample Four-Year Schedule

Freshman	Sophomore	Junior	Senior
<ul style="list-style-type: none"> • English I • Algebra I • Integrated Science • Intro. to Social Studies • Health / P.E. • Arts and Humanities 	<ul style="list-style-type: none"> • English II • Geometry • Biology I • World History • Comp. Manuf. Course • Comp. Manuf. Course 	<ul style="list-style-type: none"> • English III • Algebra II • Science Elective or Chemistry or Physics* • American History • Elective or World Language* • Comp. Manuf. Course • Comp. Manuf. Course 	<ul style="list-style-type: none"> • English IV • Senior Math • Elective or World Language* • Elective • Elective • Comp. Manuf. Course • Comp. Manuf. Course

*Two years of world language and Chemistry or Physics are required for the pre-college curriculum.

Note: If you took Algebra I, English I, or Integrated Science during your 8th grade year, you will take the next math, English, or science course available your Freshman and following years.

Construction Carpentry Technology

Finish Carpenters Assistant Pathway

Lake Cumberland ATC

Pathway Description: A program that prepares individuals to apply technical knowledge and skills to lay out, cut, fabricate, erect, install, and repair wooden structures and fixtures, using hand and power tools. Includes instruction in technical mathematics, framing, construction materials and selection, job estimating, blueprint reading, foundations and roughing-in, finish carpentry techniques, and applicable codes and standards.

Related Career Fields	<ul style="list-style-type: none"> • Carpenter • Construction Laborer • Construction Manager 	<ul style="list-style-type: none"> • Construction Tradesperson • Flooring Installer 	<ul style="list-style-type: none"> • Furniture Finisher • Production Woodworker
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Required Courses	Elective Courses
<ol style="list-style-type: none"> 1. Introduction to Construction Technology 2. Floor and Wall Framing 3. Exterior and Interior Finish 4. Cabinet Construction and Installation 	<ul style="list-style-type: none"> • Construction Prints / Industrial Safety • Co-op (Carpentry)

Sample Four-Year Schedule

Freshman	Sophomore	Junior	Senior
<ul style="list-style-type: none"> • English I • Algebra I • Integrated Science • Intro. to Social Studies • Health / P.E. • Arts and Humanities 	<ul style="list-style-type: none"> • English II • Geometry • Biology I • World History • Carpentry Course • Carpentry Course 	<ul style="list-style-type: none"> • English III • Algebra II • Science Elective or Chemistry or Physics* • American History • Elective or World Language* • Carpentry Course • Carpentry Course 	<ul style="list-style-type: none"> • English IV • Senior Math • Elective or World Language* • Elective • Elective • Carpentry Course • Carpentry Course

*Two years of world language and Chemistry or Physics are required for the pre-college curriculum.

Note: If you took Algebra I, English I, or Integrated Science during your 8th grade year, you will take the next math, English, or science course available your Freshman and following years.

Construction Carpentry Technology

Residential Carpenter Assistant Pathway

Lake Cumberland ATC

Pathway Description: A program that prepares individuals to apply technical knowledge and skills to lay out, cut, fabricate, erect, install, and repair wooden structures and fixtures, using hand and power tools. Includes instruction in technical mathematics, framing, construction materials and selection, job estimating, blueprint reading, foundations and roughing-in, finish carpentry techniques, and applicable codes and standards.

Related Career Fields	<ul style="list-style-type: none"> • Carpenter • Construction Laborer • Construction Manager 	<ul style="list-style-type: none"> • Construction Tradesperson • Drywall Installer 	<ul style="list-style-type: none"> • Flooring Installer • Production Woodworker
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Required Courses	Elective Courses
<ol style="list-style-type: none"> 1. Introduction to Construction Technology 2. Floor and Wall Framing 3. Ceiling and Roof Framing 4. Exterior and Interior Finish 	<ul style="list-style-type: none"> • Site Layout and Foundations • Cabinet Construction and Installation • Co-op (Carpentry)

Sample Four-Year Schedule

Freshman	Sophomore	Junior	Senior
<ul style="list-style-type: none"> • English I • Algebra I • Integrated Science • Intro. to Social Studies • Health / P.E. • Arts and Humanities 	<ul style="list-style-type: none"> • English II • Geometry • Biology I • World History • Carpentry Course • Carpentry Course 	<ul style="list-style-type: none"> • English III • Algebra II • Science Elective or Chemistry or Physics* • American History • Elective or World Language* • Carpentry Course • Carpentry Course 	<ul style="list-style-type: none"> • English IV • Senior Math • Elective or World Language* • Elective • Elective • Carpentry Course • Carpentry Course

*Two years of world language and Chemistry or Physics are required for the pre-college curriculum.

Note: If you took Algebra I, English I, or Integrated Science during your 8th grade year, you will take the next math, English, or science course available your Freshman and following years.

Electrical Technology

Residential Electrician Pathway

Lake Cumberland ATC

Pathway Description: A program that prepares individuals to apply technical knowledge and skills to install, operate, maintain, and repair electric apparatus and systems such as residential, commercial, and industrial electric-power wiring; and DC and AC motors, controls, and electrical distribution panels. Includes instruction in the principles of electronics and electrical systems, wiring, power transmission, safety, industrial and household appliances, job estimation, electrical testing and inspection, and applicable codes and standards.

Related Career Fields	<ul style="list-style-type: none"> • Construction Laborer • Construction Manager 	<ul style="list-style-type: none"> • Construction Tradesperson • Electrical Engineer Electrical 	<ul style="list-style-type: none"> • Engineering Tech • Electrician
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Required Courses	Elective Courses
1. Electrical Motor Controls 2. Electrical Construction I 3. Basic Troubleshooting 4. Circuits I	<ul style="list-style-type: none"> • Co-op (Electrical)

Sample Four-Year Schedule

Freshman	Sophomore	Junior	Senior
<ul style="list-style-type: none"> • English I • Algebra I • Integrated Science • Intro. to Social Studies • Health / P.E. • Arts and Humanities 	<ul style="list-style-type: none"> • English II • Geometry • Biology I • World History • Electrical Tech. Course • Electrical Tech. Course 	<ul style="list-style-type: none"> • English III • Algebra II • Science Elective or Chemistry or Physics* • American History • Elective or World Language* • Electrical Tech. Course • Electrical Tech. Course 	<ul style="list-style-type: none"> • English IV • Senior Math • Elective or World Language* • Elective • Elective • Electrical Tech. Course • Electrical Tech. Course

*Two years of world language and Chemistry or Physics are required for the pre-college curriculum.

Note: If you took Algebra I, English I, or Integrated Science during your 8th grade year, you will take the next math, English, or science course available your Freshman and following years.

Family and Consumer Sciences

Consumer and Family Management Pathway

Pathway Description: The Consumer and Family Management pathway helps students develop skills associated with early career employment opportunities and rigorous education programs that prepare for this level of the career ladder. The knowledge and skills validated span across a broad range of Family and Consumer Sciences content areas and are central to career areas involving human services, consumer services/protection/advising, education and training as well as social and community services.

Related Career Fields	<ul style="list-style-type: none"> • Marriage and Family Therapist • Family and Consumer Scientist 	<ul style="list-style-type: none"> • Gerontologist • Abuse/Crisis Counselor 	<ul style="list-style-type: none"> • Personal Financial Planner
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Required Courses	Elective Courses
1. FACS Essentials 2. Parenting 3. Middle to Late Lifespan Development 4. Foods & Nutrition 5. Relationships	<ul style="list-style-type: none"> • FACS Leaders at Work • Principles of Teaching

Sample Four-Year Schedule

Freshman	Sophomore	Junior	Senior
<ul style="list-style-type: none"> • English I • Algebra I • Integrated Science • Intro. to Social Studies • Health / P.E. 	<ul style="list-style-type: none"> • English II • Geometry • Biology I • World History • Arts and Humanities 	<ul style="list-style-type: none"> • English III • Algebra II • Science Elective or Chemistry or Physics* • American History • Elective or World Language* 	<ul style="list-style-type: none"> • English IV • Senior Math • Elective or World Language* • Elective • Elective
<ul style="list-style-type: none"> • FACS Essentials 	<ul style="list-style-type: none"> • Parenting / Middle to Late Lifespan Dev. 	<ul style="list-style-type: none"> • Foods & Nutrition / Relationships 	<ul style="list-style-type: none"> • FACS Elective

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Note: If you took Algebra I, English I, or Integrated Science during your 8th grade year, you will take the next math, English, or science course available your Freshman and following years.

Family and Consumer Sciences

Fundamentals of Teaching Pathway

Pathway Description: The Fundamentals of Teaching pathway will facilitate employment in early career ladder positions and promote continuing education at the postsecondary level preparing for careers associated with education and training in public and private school programs, elementary, middle, and secondary schools, after-school programs; higher education, non-profit, and corporate settings.

Related Career Fields	<ul style="list-style-type: none"> • Teacher—all levels and areas • Teacher Assistant 	<ul style="list-style-type: none"> • Principal • Superintendent 	<ul style="list-style-type: none"> • School Counselor
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Required Courses	Elective Courses
<ol style="list-style-type: none"> 1. FACS Essentials 2. Middle to Late Lifespan Development 3. Relationships 4. Principles of Teaching 	<ul style="list-style-type: none"> • Parenting • Foods & Nutrition • FACS Leaders at Work

Sample Four-Year Schedule

Freshman	Sophomore	Junior	Senior
<ul style="list-style-type: none"> • English I • Algebra I • Integrated Science • Intro. to Social Studies • Health / P.E. 	<ul style="list-style-type: none"> • English II • Geometry • Biology I • World History • Arts and Humanities 	<ul style="list-style-type: none"> • English III • Algebra II • Science Elective or Chemistry or Physics* • American History • Elective or World Language* 	<ul style="list-style-type: none"> • English IV • Senior Math • Elective or World Language* • Elective • Elective
<ul style="list-style-type: none"> • FACS Essentials 	<ul style="list-style-type: none"> • Parenting / Middle to Late Lifespan Dev. 	<ul style="list-style-type: none"> • Foods & Nutrition / Relationships 	<ul style="list-style-type: none"> • Principles of Teaching / FACS Leaders at Work

**Two years of world language and Chemistry or Physics are required for the pre-college curriculum.*

Note: If you took Algebra I, English I, or Integrated Science during your 8th grade year, you will take the next math, English, or science course available your Freshman and following years.

Flight and Aviation

Flight & Aeronautics Pathway

The Air+Space Academy

Pathway Description: Students complete what is considered the first phase of aviation training leading to a commercial pilot license. They will gain technical knowledge and skills to the flying and/or navigation of commercial passenger and cargo, agricultural, public service, corporate and fixed wing aircraft. Includes instruction in principles of aircraft design and performance, aircraft flight systems and controls, flight crew operations and procedures, radio communications, navigation procedures and systems, airways safety and traffic regulations, and governmental rules and regulations pertaining to piloting aircraft.

Related Career Fields	<ul style="list-style-type: none"> • Aerospace Engineer • Aerospace Technician • Private Pilot 	<ul style="list-style-type: none"> • Commercial Pilot • Crew Chief • Flight Instructor 	<ul style="list-style-type: none"> • Commercial Aviator • Military Aviator • Military Navigator
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Required Courses	Elective Courses
1. Introduction to Aerospace 2. Fundamentals of Aviation Science 3. Aviation Science 4. Commercial Aviation Science	<ul style="list-style-type: none"> • None

Sample Four-Year Schedule

Freshman	Sophomore	Junior	Senior
<ul style="list-style-type: none"> • English I • Algebra I • Integrated Science • Intro. to Social Studies • Health / P.E. 	<ul style="list-style-type: none"> • English II • Geometry • Biology I • World History • Arts and Humanities 	<ul style="list-style-type: none"> • English III • Algebra II • Science Elective or Chemistry or Physics* • American History • Elective or World Language* 	<ul style="list-style-type: none"> • English IV • Senior Math • Elective or World Language* • Elective • Elective
<ul style="list-style-type: none"> • Intro to Aerospace 	<ul style="list-style-type: none"> • Fund. of Aviation Science 	<ul style="list-style-type: none"> • Aviation Science 	<ul style="list-style-type: none"> • Commercial Aviation Science

*Two years of world language and Chemistry or Physics are required for the pre-college curriculum.

Note: If you took Algebra I, English I, or Integrated Science during your 8th grade year, you will take the next math, English, or science course available your Freshman and following years.

Health Sciences

Allied Health Pathway

Pathway Description: A general, introductory, undifferentiated, or joint program in health services occupations that prepares individuals for either entry into specialized training programs or for a variety of concentrations in the allied health area. Includes instruction in the basic sciences, research and clinical procedures, and aspects of the subject matter related to various health occupations.

Related Career Fields	<ul style="list-style-type: none"> • Doctor • Nurse 	<ul style="list-style-type: none"> • Pharmacist • Physical Therapist 	<ul style="list-style-type: none"> • Psychologist • Radiologist 	<ul style="list-style-type: none"> • Surgeon • Veterinarian
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Required Courses	Elective Courses
1. Principles of Health Science 2. Emergency Procedures (1/2 credit) 3. Medical Terminology (1/2 credit) 4. Allied Health Core Skills 5. Body Structures and Functions	<ul style="list-style-type: none"> • Health and Wellness • Internship: Allied Health • Medical Math • Special Topics

Sample Four-Year Schedule

Freshman	Sophomore	Junior	Senior
<ul style="list-style-type: none"> • English I • Algebra I • Integrated Science • Intro. to Social Studies • Health / P.E. • Elective 	<ul style="list-style-type: none"> • English II • Geometry • Biology I • World History • Arts and Humanities • Prin. of Health Science 	<ul style="list-style-type: none"> • English III • Algebra II • Science Elective or Chemistry or Physics* • American History • Elective or World Language* • Emergency Proc. / Medical Term. 	<ul style="list-style-type: none"> • English IV • Senior Math • Elective or World Language* • Elective • Elective • Allied Health Core Skills • Body Structures & Func.

*Two years of world language and Chemistry or Physics are required for the pre-college curriculum.

Note: If you took Algebra I, English I, or Integrated Science during your 8th grade year, you will take the next math, English, or science course available your Freshman and following years.

Health Sciences

Emergency Medical Technician (EMT)

Pathway Description: A program that prepares individuals, under the remote supervision of physicians, to recognize, assess, and manage medical emergencies in prehospital settings and to supervise Ambulance personnel. Includes instruction in basic, intermediate, and advanced EMT procedures; emergency surgical procedures; medical triage; rescue operations; crisis scene management and personnel supervision; equipment operation and maintenance; patient stabilization, monitoring, and care; drug administration; identification and preliminary diagnosis of diseases and injuries; communication and computer operations; basic anatomy, physiology, pathology, and toxicology; and professional standards and regulations.

Related Career Fields	<ul style="list-style-type: none"> • Paramedic
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Required Courses	Elective Courses
1. Principles of Health Science 2. Emergency Procedures (1/2 credit) 3. Medical Terminology (1/2 credit) 4. Emergency Medical Technician 5. EMS Training	<ul style="list-style-type: none"> • None

Sample Four-Year Schedule

Freshman	Sophomore	Junior	Senior
<ul style="list-style-type: none"> • English I • Algebra I • Integrated Science • Intro. to Social Studies • Health / P.E. • Elective 	<ul style="list-style-type: none"> • English II • Geometry • Biology I • World History • Arts and Humanities • Prin. of Health Science 	<ul style="list-style-type: none"> • English III • Algebra II • Science Elective or Chemistry or Physics* • American History • Elective or World Language* • Emergency Proc. / Medical Term. 	<ul style="list-style-type: none"> • English IV • Senior Math • Elective or World Language* • Elective • Emergency Medical Technician • EMS Training

**Two years of world language and Chemistry or Physics are required for the pre-college curriculum.*

Note: If you took Algebra I, English I, or Integrated Science during your 8th grade year, you will take the next math, English, or science course available your Freshman and following years.

Health Sciences

Pre-Nursing Pathway

Pathway Description: A program that prepares individuals for admission to a professional program in Nursing.

Related Career Fields	<ul style="list-style-type: none"> • Licensed Practical Nurse • Nurse 	<ul style="list-style-type: none"> • Nurse Practitioner • Nursing Assistant 	<ul style="list-style-type: none"> • Physician’s Assistant • Doctor
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Required Courses	Elective Courses
1. Principles of Health Science 2. Emergency Procedures (1/2 credit) 3. Medical Terminology (1/2 credit) 4. Medicaid Nurse Aide 5. Advanced Pre-Nursing	<ul style="list-style-type: none"> • Body Structures & Functions • Health and Wellness • Medical Math • Special Topics

Sample Four-Year Schedule

Freshman	Sophomore	Junior	Senior
<ul style="list-style-type: none"> • English I • Algebra I • Integrated Science • Intro. to Social Studies • Health / P.E. • Elective 	<ul style="list-style-type: none"> • English II • Geometry • Biology I • World History • Arts and Humanities • Prin. of Health Science 	<ul style="list-style-type: none"> • English III • Algebra II • Science Elective or Chemistry or Physics* • American History • Elective or World Language* • Emergency Proc. / Medical Term. 	<ul style="list-style-type: none"> • English IV • Senior Math • Elective or World Language* • Elective • MNA • Adv. Pre-Nursing

**Two years of world language and Chemistry or Physics are required for the pre-college curriculum.*

Note: If you took Algebra I, English I, or Integrated Science during your 8th grade year, you will take the next math, English, or science course available your Freshman and following years.

Industrial Maintenance

Fluid Power Mechanic Pathway

Lake Cumberland ATC

Pathway Description: Fluid Power Mechanics fabricate, assembly, service, maintain, repair, and tests industrial hydraulic equipment. Applies knowledge of hydraulic, pneumatic, and electrical principles to test equipment, and analyzes and records data, such as fluid pressure, flow measure, and power loss due to friction and parts wear. The fluid power mechanic understands hydraulic symbols, reads system schematics, understands electrical principles, and is skilled in test procedures and instrumentation.

Related Career Fields	• Industrial Hydraulic Technician	• Industrial Engineer	• Fluid Power Supervisor
	• Mechanical Engineer	• Pneumatic Specialist	• Hydraulic Engineer

Required Courses	Elective Courses
1. Fluid Power 2. Advanced Hydraulic Systems 3. Basic Blueprint Reading 4. Basic Troubleshooting 5. Maintaining Industrial Equipment	• Cooperative Education I (Ind. Maint.)

Sample Four-Year Schedule

Freshman	Sophomore	Junior	Senior
<ul style="list-style-type: none"> • English I • Algebra I • Integrated Science • Intro. to Social Studies • Health / P.E. • Arts and Humanities 	<ul style="list-style-type: none"> • English II • Geometry • Biology I • World History • Industrial Maint. Course • Industrial Maint. Course 	<ul style="list-style-type: none"> • English III • Algebra II • Science Elective or Chemistry or Physics* • American History • Elective or World Language* • Industrial Maint. Course • Industrial Maint. Course 	<ul style="list-style-type: none"> • English IV • Senior Math • Elective or World Language* • Elective • Elective • Industrial Maint. Course • Industrial Maint. Course

*Two years of world language and Chemistry are required for the pre-college curriculum.

Note: If you took Algebra I, English I, or Integrated Science during your 8th grade year, you will take the next math, English, or science course available your Freshman and following years.

Industrial Maintenance

Maintenance Mechanic Pathway

Lake Cumberland ATC

Pathway Description: Maintenance Mechanics perform machine setup, troubleshooting, repairs and preventive maintenance service; including but not limited to, mechanical, electrical, pneumatic and hydraulic systems for industrial production and processing machinery and equipment. Reads and interprets equipment manuals and work orders to perform required maintenance and service. Analyses and inspects equipment, structures, or materials to identify the cause of errors or other problems or defects.

Related Career Fields	<ul style="list-style-type: none"> • Maintenance Mechanic • Maintenance Inspector 	<ul style="list-style-type: none"> • Maintenance Supervisor • Industrial Engineer Tech 	<ul style="list-style-type: none"> • Mechanical Engineer
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Required Courses	Elective Courses
1. Fluid Power 2. Maintaining Industrial Equipment 3. Basic Blueprint Reading 4. Industrial Maintenance Electrical Motor Controls 5. Basic Troubleshooting	<ul style="list-style-type: none"> • Cooperative Education I (Ind. Maint.)

Sample Four-Year Schedule

Freshman	Sophomore	Junior	Senior
<ul style="list-style-type: none"> • English I • Algebra I • Integrated Science • Intro. to Social Studies • Health / P.E. • Arts and Humanities 	<ul style="list-style-type: none"> • English II • Geometry • Biology I • World History • Industrial Maint. Course • Industrial Maint. Course 	<ul style="list-style-type: none"> • English III • Algebra II • Science Elective or Chemistry or Physics* • American History • Elective or World Language* • Industrial Maint. Course • Industrial Maint. Course 	<ul style="list-style-type: none"> • English IV • Senior Math • Elective or World Language* • Elective • Elective • Industrial Maint. Course • Industrial Maint. Course

*Two years of world language and Chemistry or Physics are required for the pre-college curriculum.

Note: If you took Algebra I, English I, or Integrated Science during your 8th grade year, you will take the next math, English, or science course available your Freshman and following years.

Information Technology

Computer Science Pathway

Pathway Description: The Computer Science Pathway courses focus on computer theory, computing problems and solutions, and design of computer systems and user-interfaces. The coursework will include instruction in the principles of computational science, computer development and programming and applications to a variety of end use situations.

Related Career Fields	<ul style="list-style-type: none"> • Software Developer • Database Administrator • Computer Hardware Engineer 	<ul style="list-style-type: none"> • Computer Systems Analyst • Computer Network Architect • Web Developer 	<ul style="list-style-type: none"> • Information Security Analyst • Computer Programmer • Computer Systems Manager 	<ul style="list-style-type: none"> • Information Systems Manager • Project Manager
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Required Courses	Elective Courses
1. Computer Literacy 2. Computational Thinking 3. AP Computer Science Principles 4. AP Computer Science	<ul style="list-style-type: none"> • Information Technology Co-op

Sample Four-Year Schedule

Freshman	Sophomore	Junior	Senior
<ul style="list-style-type: none"> • English I • Algebra I • Integrated Science • Intro. to Social Studies • Health / P.E. 	<ul style="list-style-type: none"> • English II • Geometry • Biology I • World History • Arts and Humanities 	<ul style="list-style-type: none"> • English III • Algebra II • Science Elective or Chemistry or Physics* • American History • Elective or World Language* 	<ul style="list-style-type: none"> • English IV • Senior Math • Elective or World Language* • Elective • Elective
<ul style="list-style-type: none"> • Computer Literacy 	<ul style="list-style-type: none"> • Computational Thinking 	<ul style="list-style-type: none"> • AP Computer Science Principles 	<ul style="list-style-type: none"> • AP Computer Science

**Two years of world language and Chemistry or Physics are required for the pre-college curriculum.*

Note: If you took Algebra I, English I, or Integrated Science during your 8th grade year, you will take the next math, English, or science course available your Freshman and following years.

If you took Computer Literacy during your 8th grade year, you will take the next course available your Freshman and following years.

Junior Guard

Junior Guard Pathway

Related Career Fields	<ul style="list-style-type: none"> • Administrative Personnel • Construction Personnel 	<ul style="list-style-type: none"> • Electron. & Elect. Equip. Repair Personnel • Engineering, Sci., & Tech. Personnel 	<ul style="list-style-type: none"> • Healthcare Personnel • Media & Public Affairs Personnel 	<ul style="list-style-type: none"> • Transportation & Material-Handling Personnel
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Required Courses	Elective Courses
1. Junior Guard I 2. Junior Guard II 3. Junior Guard III 4. Junior Guard IV	<ul style="list-style-type: none"> • None

Sample Four-Year Schedule

Freshman	Sophomore	Junior	Senior
<ul style="list-style-type: none"> • English I • Algebra I • Integrated Science • Intro. to Social Studies • Health / P.E. 	<ul style="list-style-type: none"> • English II • Geometry • Biology I • World History • Arts and Humanities 	<ul style="list-style-type: none"> • English III • Algebra II • Science Elective or Chemistry or Physics* • American History • Elective or World Language* 	<ul style="list-style-type: none"> • English IV • Senior Math • Elective or World Language* • Elective • Elective
<ul style="list-style-type: none"> • Junior Guard I 	<ul style="list-style-type: none"> • Junior Guard II 	<ul style="list-style-type: none"> • Junior Guard III 	<ul style="list-style-type: none"> • Junior Guard IV

*Two years of world language and Chemistry or Physics are required for the pre-college curriculum.

Note: If you took Algebra I, English I, or Integrated Science during your 8th grade year, you will take the next math, English, or science course available your Freshman and following years.

Media Arts

Cinematography and Video Production Pathway

Pathway Description: This career pathway prepares students to communicate dramatic information, ideas, moods, and feelings through the making and producing of videos and cinematographic expression. The pathway includes the theory of video, video technology and equipment operation, video production, video directing, video editing, cinematographic art, video and audio technique, and multi-media production. It prepares students to function as staff, producers, directors, and managers of media programming and media organizations. Includes writing and editing; performing; media regulations, law, and policy; aesthetic meaning, appreciation and analysis; construction, development, processing, modeling, simulation and programming of audio and moving image programs and messages; their transmission, distribution and marketing, as well as contextual, cultural and historical aspects and considerations.

Related Career Fields	• Adv. Copywriter	• Camera Operator	• Film and TV Crew	• Photojournalist
	• Audio-Visual Tech.	• Director	• Film Editor	• Radio / Television
	• Broadcast Tech.	• Dir. of Photography	• Photographer	• Program Director

Required Courses	Elective Courses
1. Introduction to Media Arts 2. Video Studio Fundamentals 3. Studio Directing and Performance 4. Adv. Studio Production (Moving Image)	<ul style="list-style-type: none"> • None

Sample Four-Year Schedule

Freshman	Sophomore	Junior	Senior
<ul style="list-style-type: none"> • English I • Algebra I • Integrated Science • Intro. to Social Studies • Health / P.E. 	<ul style="list-style-type: none"> • English II • Geometry • Biology I • World History • Arts and Humanities 	<ul style="list-style-type: none"> • English III • Algebra II • Science Elective or Chemistry or Physics* • American History • Elective or World Language* 	<ul style="list-style-type: none"> • English IV • Senior Math • Elective or World Language* • Elective • Elective
<ul style="list-style-type: none"> • Intro. to Media Arts 	<ul style="list-style-type: none"> • Video Studio Fund. 	<ul style="list-style-type: none"> • Studio Direct. & Perf. 	<ul style="list-style-type: none"> • Adv. Studio Prod.

*Two years of world language and Chemistry or Physics are required for the pre-college curriculum.

Note: If you took Algebra I, English I, or Integrated Science during your 8th grade year, you will take the next math, English, or science course available your Freshman and following years.

If you took Computer Literacy during your 8th grade year, you will take the next course available your Freshman and following years.

Transportation Education

Automotive Maintenance and Light Repair Pathway

Lake Cumberland ATC

Pathway Description: A program that prepares individuals to apply technical knowledge and skills to repair, service, and maintain all types of automobiles. Includes instruction in brake systems, electrical systems, engine performance, engine repair, suspension and steering, automatic and manual transmissions and drive trains, and heating and air condition systems.

Related Career Fields	<ul style="list-style-type: none"> • Entry Level Auto Technician • Service Advisor 	<ul style="list-style-type: none"> • Dispatcher • Warranty Clerk 	<ul style="list-style-type: none"> • Auto Sales Rep • Service Manager
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Required Courses	Elective Courses
1. Automotive Maint. and Light Repair Section A and Lab 2. Automotive Maint. and Light Repair Section B and Lab 3. Automotive Maint. and Light Repair Section C and Lab 4. Automotive Maint. and Light Repair Section D and Lab	<ul style="list-style-type: none"> • None

Sample Four-Year Schedule

Freshman	Sophomore	Junior	Senior
<ul style="list-style-type: none"> • English I • Algebra I • Integrated Science • Intro. to Social Studies • Health / P.E. • Arts and Humanities 	<ul style="list-style-type: none"> • English II • Geometry • Biology I • World History • Transportation Course • Transportation Course 	<ul style="list-style-type: none"> • English III • Algebra II • Science Elective or Chemistry or Physics* • American History • Elective or World Language* • Transportation Course • Transportation Course 	<ul style="list-style-type: none"> • English IV • Senior Math • Elective or World Language* • Elective • Elective • Transportation Course • Transportation Course

**Two years of world language and Chemistry or Physics are required for the pre-college curriculum.*

Note: If you took Algebra I, English I, or Integrated Science during your 8th grade year, you will take the next math, English, or science course available your Freshman and following years.

Welding Technology

Welder-Entry Level Pathway

Pathway Description: An Entry Level Welder demonstrates the ability to assist lead welders in the fabrication of steel and metal structures. Must be adept at performing basic welding functions and calculating dimensions as well as operating power equipment, grinders and other related tools. Must be proficient in reading and interpreting basic blueprints and following work procedure specifications (WPS).

Related Career Fields	<ul style="list-style-type: none"> • Combination Welder • Pipe Welder • Ironworker 	<ul style="list-style-type: none"> • Tungsten Inert Gas (TIG) Welder • Certified Welding Inspector (CWI) 	<ul style="list-style-type: none"> • Certified Welding Educator (CWE) • Welding Engineer 	<ul style="list-style-type: none"> • Structural Engineer • Mech. Engineer
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Required Courses	Elective Courses
1. Basic Blueprint Reading 2. Basic Welding A 3. Cutting Processes 4. Shielded Metal Arc Welding (SMAW) 5. GMAW Groove Lab	<ul style="list-style-type: none"> • Cooperative Education (Welding) • Gas Metal Arc Welding • Welding Certification

Sample Four-Year Schedule

Freshman	Sophomore	Junior	Senior
<ul style="list-style-type: none"> • English I • Algebra I • Integrated Science • Intro. to Social Studies • Health / P.E. • Elective 	<ul style="list-style-type: none"> • English II • Geometry • Biology I • World History • Arts and Humanities • Basic Blueprint / Basic Welding A 	<ul style="list-style-type: none"> • English III • Algebra II • Science Elective or Chemistry or Physics* • American History • Elective or World Language* • Cutting Processes • GMAW Groove Lab 	<ul style="list-style-type: none"> • English IV • Senior Math • Elective or World Language* • Elective • Elective • SMAW • SMAW Groove Lab

*Two years of world language and Chemistry or Physics are required for the pre-college curriculum.

Note: If you took Algebra I, English I, or Integrated Science during your 8th grade year, you will take the next math, English, or science course available your Freshman and following years.

Welding Technology

Gas Metal Arc Welder Pathway

Pathway Description: Welds together metal components of products, such as pipelines, automobiles, boilers, ships, aircraft, and mobile homes, as specified by layout, blueprints, diagram, work order, welding procedures, or oral instructions, using electric arc-welding equipment (MIG) process. Knowledgeable in properly setting the gas metal arc welding equipment for the product material required.

Related Career Fields	<ul style="list-style-type: none"> • Combination Welder • Pipe Welder • Ironworker 	<ul style="list-style-type: none"> • Tungsten Inert Gas (TIG) Welder • Certified Welding Inspector (CWI) 	<ul style="list-style-type: none"> • Certified Welding Educator (CWE) • Welding Engineer 	<ul style="list-style-type: none"> • Structural Engineer • Mech. Engineer
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Required Courses	Elective Courses
1. Basic Blueprint Reading 2. Basic Welding A 3. Cutting Processes 4. Gas Metal Arc Welding 5. GMAW Groove Lab	<ul style="list-style-type: none"> • Welding Certification • Cooperative Education (Welding)

Sample Four-Year Schedule

Freshman	Sophomore	Junior	Senior
<ul style="list-style-type: none"> • English I • Algebra I • Integrated Science • Intro. to Social Studies • Health / P.E. • Elective 	<ul style="list-style-type: none"> • English II • Geometry • Biology I • World History • Arts and Humanities • Basic Blueprint / Basic Welding A 	<ul style="list-style-type: none"> • English III • Algebra II • Science Elective or Chemistry or Physics* • American History • Elective or World Language* • Gas Metal Arc Welding • GMAW Groove Lab 	<ul style="list-style-type: none"> • English IV • Senior Math • Elective or World Language* • Elective • Elective • Cutting Processes

*Two years of world language and Chemistry or Physics are required for the pre-college curriculum.

Note: If you took Algebra I, English I, or Integrated Science during your 8th grade year, you will take the next math, English, or science course available your Freshman and following years.

Welding Technology

Shielded Metal Arc Welder Pathway

Pathway Description: Shielded metal arc welders work primarily with heavy plate steel and pipe welding in the construction industry, including the building construction and pipeline industries. The oil and gas industry also uses shield metal arc welders for both construction and repair of production facilities. They must set up equipment and welds parts, using the shielded metal arc process (SMAW) while being knowledgeable of the required geometry, physical properties of weld shrinkage and welding techniques.

Related Career Fields	• Combination Welder	• Tungsten Inert Gas (TIG) Welder	• Certified Welding Educator (CWE)	• Structural Engineer
	• Pipe Welder	• Certified Welding Inspector (CWI)	• Welding Engineer	• Mech. Engineer
	• Ironworker			

Required Courses	Elective Courses
1. Basic Blueprint Reading 2. Basic Welding A 3. Cutting Processes 4. Shielded Metal Arc Welding (SMAW) 5. SMAW Groove Welds with Backing Lab	<ul style="list-style-type: none"> • Welding Certification • Cooperative Education (Welding)

Sample Four-Year Schedule

Freshman	Sophomore	Junior	Senior
<ul style="list-style-type: none"> • English I • Algebra I • Integrated Science • Intro. to Social Studies • Health / P.E. • Elective 	<ul style="list-style-type: none"> • English II • Geometry • Biology I • World History • Arts and Humanities • Basic Blueprint / Basic Welding A 	<ul style="list-style-type: none"> • English III • Algebra II • Science Elective or Chemistry or Physics* • American History • Elective or World Language* • Cutting Processes 	<ul style="list-style-type: none"> • English IV • Senior Math • Elective or World Language* • Elective • Elective • SMAW • SMAW Groove Welds w/ Backing Lab

*Two years of world language and Chemistry or Physics are required for the pre-college curriculum.

Note: If you took Algebra I, English I, or Integrated Science during your 8th grade year, you will take the next math, English, or science course available your Freshman and following years.

Additional Advanced and Elective Courses

English

AP English Language and Composition
AP English Literature and Composition

Math

Algebra III
Calculus
Pre-Calculus
Transitional Math

Science

Anatomy and Physiology
AP Biology
Chemistry II (Dual Credit)
Physics (Online)
Microbiology
Intro Biology with Earth/Space Science

Social Studies

AP American History
AP Psychology
AP World History

World Languages

Spanish I
Spanish II
Chinese (Mandarin) I
Chinese (Mandarin) II

General Electives

Advanced P.E.
Peer Tutoring
S.T.A.R.S*
Yearbook

* STARS may only be taken one period, students must be College and Career Ready, and students must maintain a passing grade in all classes to remain in STARS.

Index

Accounting Pathway	3
Additional Advanced and Elective Courses.....	28
Administrative Support Pathway	4
Agriculture	1
Allied Health Pathway.....	16
Animal Science Systems Pathway	1
Automotive Maintenance and Light Repair Pathway.....	24
Business.....	3
Cinematography and Video Production Pathway.....	23
CNC Operator Pathway	6
CNC Programmer Pathway	7
Computer Science Pathway	21
Computerized Manufacturing & Machining	6
Construction Carpentry Technology	10
Consumer and Family Management Pathway	13
Electrical Technology	12
Emergency Medical Technician (EMT).....	17
Family and Consumer Sciences	13
Finance Pathway	5
Finish Carpenters Assistant Pathway	10
Flight & Aeronautics Pathway.....	15
Flight and Aviation	15
Fluid Power Mechanic Pathway.....	19
Fundamentals of Teaching Pathway.....	14
Gas Metal Arc Welder Pathway	26
Health Sciences	16
Horticulture and Plant Science Pathway.....	2
Industrial Maintenance.....	19
Information Technology.....	21
Junior National Guard Pathway	22
Maintenance Mechanic Pathway	20
Media Arts.....	23
Pre-Nursing Pathway	18
Residential Carpenter Assistant Pathway	11
Residential Electrician Pathway	12
Shielded Metal Arc Welder Pathway	27
Transportation Education	24
Welder-Entry Level Pathway.....	25
Welding Technology.....	25