



Paul Blazer High School
Career Pathway Catalog 2016-2017

Overview

The Ashland Independent School District and Paul Blazer High School is committed to providing our students with skills necessary for a successful transition to postsecondary education or work and instill a desire for life-long learning in a global society. The Career and Technical Education (CTE) Program at Paul Blazer High School is an essential component of the curriculum and high school experience. CTE is a critical component in meeting the needs of students in academic achievement, career exploration, career preparation, and leadership development. Successful transition and post-secondary education, work, or the military is one of the goals of Kentucky's education system.

Paul Blazer High School currently offers seven (7) career program areas and eighteen (18) career pathways with two (2) new career pathways coming in 2017 – 2018! **Paul Blazer High School Program areas and Pathways:**

Program Area	Pathway	Page
Business Education	Accounting, Business Management, Business Technology, Information Processing	3-7
Construction Technology	Carpentry-TRACK, Carpenter Assistant	8-10
Family and Consumer Sciences	Culinary & Food Services, Early Childhood Education	11-13
Health Sciences	EKG Technology/Technician, Medicaid Nursing Aide, Phlebotomy Technician, Pharmacy Technician, Pre-Health Care	14-18
Junior Reserve Officers' Training Corps. (JROTC)	Military US Army Jr. ROTC	19-20
Project Lead the Way (PLTW)	Biomedical, Engineering	21-24
Technology Education	Manufacturing Technology/ Technician	25-27

This document provides a quick overview of each career program and the specific pathways available at Paul Blazer High School. A list of potential career opportunities is also included. A Career Pathway Chart outlines the appropriate sequence of required and recommended elective coursework for each grade level. Following career pathway course recommendations best prepares students to pass a Kentucky occupational skills exam or an industry certification. Each pathway concludes with a capstone internship during the senior year. Internships give students opportunities to explore careers via workplace learning experience. Students who complete three pathway courses, pass the KOSSA or earn an industry certification and meet career academic benchmarks are designated as Career Ready. Earning a fourth credit in a career pathway designates the student as a completer. Completers receive a certificate of completion which may be used as a credential in the job search or college application process. For additional information regarding Paul Blazer High School Career Pathways, contact the school at 606-327-6040.

Program Area: Business Education

Program Description: This program provides relevant learning that is a critical link to employment and post-secondary education, encourages the development of vital relationships with the business community, and promotes critical thinking and problem solving. Business Education promotes business professional development and enhances leadership skills for a career in the business world.

Pathways/Career Opportunities:

Pathway	Potential Career Opportunities
Accounting	Accountant, Forensic Accountant, Tax Preparer, Auditor, Budget Analyst
Business Management	Entry Level Manager, Money Manager, Account Manager, Real Estate Agent, Insurance Agent, Association Manager
Business Technology	Data Entry Clerk, Telephone Operator, Courier/Messenger
Information Processing	Data Entry Clerk, Bill & Account Collector, Insurance Claims Adjuster, Administrative Assistant

Pathway: Accounting

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.

Career Pathway Chart:

GRADE	ENGLISH	MATH	SCIENCE	SOCIAL STUDIES	REQUIRED COURSES AND RECOMMENDED COURSES FOR PATHWAY			CAREER-READY MEASURE
9TH	English 9	Algebra I	Integrated Science	Integrated Social Studies		Digital Literacy or Business Principles and Applications*	<i>Financial Literacy**</i>	
10TH	English 10	Geometry	Biology	World Civilizations	Accounting & Finance Foundations*	Digital Literacy or Business Principles and Applications*	<i>Financial Literacy**</i>	
11TH	English 11	Algebra II	Chemistry	U.S. History	Financial Accounting*	<i>MOS or Business Management**</i>	<i>Financial Literacy**</i>	
12TH	English 12	Fourth Year of Math			Advanced Accounting* Internship: Business Education***	<i>MOS or Business Management**</i>	<i>Financial Literacy**</i>	Industry Certification and/or KOSSA Exam: Accounting KOSSA or Assessment of Skills and Knowledge for Business (ASK) - Concepts of Finance (#ME23) or Microsoft Office Specialist (MOS) - Excel, PowerPoint, Word

*Choose 2 – 3 Credits in Required Courses.

**Choose 1 – 2 Credits in Recommended Courses.

***Available to students who have completed three required courses. May be taken in conjunction with a fourth required course.

Courses in **bold** are required for the pathway. Courses *italicized* are recommended for the pathway.

Pathway: Business Management

Pathway Description: A program that generally prepares individuals to plan, organize, direct, and control the functions and processes of a firm or organization. Includes instruction in management theory, human resources management and behavior, accounting and other quantitative methods, purchasing and logistics, organization and production, marketing, and business decision-making.

Career Pathway Chart:

GRADE	ENGLISH	MATH	SCIENCE	SOCIAL STUDIES	REQUIRED COURSES AND RECOMMENDED COURSES FOR PATHWAY			CAREER-READY MEASURE
9TH	English 9	Algebra I	Integrated Science	Integrated Social Studies	Business Principles and Applications*	<i>Digital Literacy**</i>	<i>Financial Literacy**</i>	
10TH	English 10	Geometry	Biology	World Civilizations	Business Principles and Applications*	<i>Digital Literacy**</i>	<i>Financial Literacy**</i>	
11TH	English 11	Algebra II	Chemistry	U.S. History	Business Management*	<i>Accounting & Finance**</i>	<i>Financial Literacy**</i>	
12TH	English 12	Fourth Year of Math			Business Management* Internship: Business Education***	<i>Accounting & Finance**</i>	<i>Financial Literacy**</i>	Industry Certification and/or KOSSA Exam: Business Management KOSSA or Assessment of Skills and Knowledge for Business (ASK)-Fundamental Business Concepts (#ME05) or Assessment of Skills and Knowledge for Business (ASK)-Concepts of Entrepreneurship/Management (#ME22)

*Complete 3 Credits in Required Courses.

**Choose 1 Credit in Recommended Courses.

*** Available to students who have completed three required courses. May be taken in conjunction with a fourth required course.

Courses in **bold** are required for the pathway. Courses *italicized* are recommended for the pathway.

Courses in **bold** are required for the pathway. Courses *italicized* are recommended for the pathway.

NOTE: Graduation requirements also include one Arts/Humanities credit, ½ credits in Health, and ½ credits in Physical Education.

Pathway: Business Technology

Pathway Description: A program that prepares individuals to provide basic administrative support under the supervision of office managers, administrative assistants, secretaries, and other office personnel. Includes instruction in typing, keyboarding, filing, general business correspondence, office equipment operation, and communications skills.

Career Pathway Chart:

GRADE	ENGLISH	MATH	SCIENCE	SOCIAL STUDIES	REQUIRED COURSES AND RECOMMENDED COURSES FOR PATHWAY			CAREER-READY MEASURE
9TH	English 9	Algebra I	Integrated Science	Integrated Social Studies	Digital Literacy or Business Principles and Applications*		<i>Financial Literacy**</i>	
10TH	English 10	Geometry	Biology	World Civilizations	Digital Literacy or Business Principles and Applications*	Multimedia Publishing or Web Page Design*	<i>Financial Literacy**</i>	
11TH	English 11	Algebra II	Chemistry	U.S. History	Business Management*	Multimedia Publishing or Web Page Design*	<i>Financial Literacy or Accounting & Finance or MOS**</i>	
12TH	English 12	Fourth Year of Math			Business Management* Internship: Business Education***	Multimedia Publishing or Web Page Design*	<i>Financial Literacy or Accounting & Finance or MOS**</i>	Industry Certification and/or KOSSA Exam: Assessment of Skills and Knowledge for Business (ASK) - Fundamental Business Concepts (#ME05)

*Complete 3 Credits in Required Courses.

**Choose 1 Credit in Recommended Courses.

*** Available to students who have completed three required courses. May be taken in conjunction with a fourth required course.

Courses in **bold** are required for the pathway. Courses *italicized* are recommended for the pathway.

Courses in **bold** are required for the pathway. Courses *italicized* are recommended for the pathway.

NOTE: Graduation requirements also include one Arts/Humanities credit, ½ credits in Health, and ½ credits in Physical Education.

Pathway: Information Processing

Pathway Description: A program that prepares individuals to support business information operations by using computer equipment to enter, process, and retrieve data for a wide variety of administrative purposes. Includes instruction in using basic business software and hardware, business computer networking, principles of desktop publishing, preparing mass mailings, compiling and editing spreadsheets, list maintenance, preparing tables and graphs, receipt control, and preparing business performance reports.

Career Pathway Chart:

GRADE	ENGLISH	MATH	SCIENCE	SOCIAL STUDIES	REQUIRED COURSES AND RECOMMENDED COURSES FOR PATHWAY			CAREER-READY MEASURE
9TH	English 9	Algebra I	Integrated Science	Integrated Social Studies	Digital Literacy or Business Principles and Applications*		Financial Literacy*	
10TH	English 10	Geometry	Biology	World Civilizations	Digital Literacy or Business Principles and Applications*	Multimedia Publishing*	Financial Literacy*	
11TH	English 11	Algebra II	Chemistry	U.S. History	Microsoft Office Specialist (MOS)*	Multimedia Publishing*	Financial Literacy or Accounting & Finance*	
12TH	English 12	Fourth Year of Math			Microsoft Office Specialist (MOS)* Internship: Business Education**	Multimedia Publishing*	Financial Literacy or Accounting & Finance*	Industry Certification and/or KOSSA Exam: Administrative Support Services KOSSA or Microsoft Office Specialist (MOS) - Excel, PowerPoint, Word

*Complete 4 Credits in Required Courses.

** Available to students who have completed three required courses. May be taken in conjunction with a fourth required course.

Courses in **bold** are required for the pathway. Courses *italicized* are recommended for the pathway.

NOTE: Graduation requirements also include one Arts/Humanities credit, ½ credits in Health, and ½ credits in Physical Education.

Program Area: Construction Technology

Program Description: The Construction Technology programs will prepare students for work in the construction industry. Career Pathways are built with comprehensive coursework ranging from entry level trades through levels of national certification. Current and traditional building practices are included, while updated and advanced framing techniques, energy efficiency, health and safety, and sustainability methods are emphasized. Course offerings are intended to promote career ladders for all post-secondary opportunities. All Construction Technology Programs offer Nationally Recognized Certifications. Each student must pass both a technical knowledge and a technical performance assessment as proof that they have the skills required by industry.

Pathways/Career Opportunities:

Pathway	Potential Career Opportunities
Carpentry-TRACK	Carpenter, Construction Tradesperson
Carpenter Assistant	Carpenter, Construction Laborer, Construction Manager, Construction Tradesperson, Drywall Installer

Pathway: Carpentry-TRACK

Pathway Description: A program that prepares individuals to apply technical knowledge and skills to lie 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. Each student must pass an End of Program assessment and complete 8 OSHA Safety modules listed on the “Track” website (<http://www.laborcabinetetrain.ky.gov/track.html>) to be eligible to receive credit and preference in an organization that sponsors a registered apprenticeship program. Course credit will be considered at the discretion of training provider (grades and attendance can be taken into consideration).

Career Pathway Chart:

GRADE	ENGLISH	MATH	SCIENCE	SOCIAL STUDIES	REQUIRED COURSES AND RECOMMENDED COURSES FOR PATHWAY			CAREER-READY MEASURE
9TH	English 9	Algebra I	Integrated Science	Integrated Social Studies	Introduction to Construction Technology			
10TH	English 10	Geometry	Biology	World Civilizations	Site Layout and Foundations			
11TH	English 11	Algebra II	Chemistry	U.S. History	Floor and Wall Framing	Ceiling and Roof Framing		
12TH	English 12	Fourth Year of Math			Internship: Carpentry			Industry Certification and/or KOSSA Exam: Kentucky TRACK Pre-Apprenticeship Certification KOSSA: Carpentry

Courses in **bold** are required for the pathway. Courses *italicized* are recommended for the pathway.

NOTE: Graduation requirements also include one Arts/Humanities credit, ½ credits in Health, and ½ credits in Physical Education.

Pathway: Carpenter Assistant

Pathway Description: A program that prepares individuals to apply technical knowledge and skills to lie 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.

Career Pathway Chart:

GRADE	ENGLISH	MATH	SCIENCE	SOCIAL STUDIES	REQUIRED COURSES AND RECOMMENDED COURSES FOR PATHWAY		CAREER-READY MEASURE
9TH	English 9	Algebra I	Integrated Science	Integrated Social Studies	Introduction to Construction Technology		
10TH	English 10	Geometry	Biology	World Civilizations	Site Layout and Foundations		
11TH	English 11	Algebra II	Chemistry	U.S. History	Floor and Wall Framing	Ceiling and Roof Framing	
12TH	English 12	Fourth Year of Math			Internship: Carpentry		KOSSA Exam: Construction

Courses in **bold** are required for the pathway. Courses *italicized* are recommended for the pathway.

NOTE: Graduation requirements also include one Arts/Humanities credit, ½ credits in Health, and ½ credits in Physical Education.

Program Area: Family and Consumer Sciences

Program Description: The purpose of Family & Consumer Sciences Education is to empower individuals and families throughout the lifespan to manage the challenges of living and working in a diverse, global society. The unique focus is families, work, and their interrelationships. The curriculum is aligned to the knowledge and skills identified within the Nation Standards for Family and Consumer Sciences Education. Kentucky FCS Education provides students the opportunity to explore and prepare for careers in many of today's high-demand occupations, engage in hands-on, contextual learning that incorporates academic concepts, acquire valuable and essential leadership and life skills, demonstrate the ability to effectively collaborate, communicate and think critically and creatively to problem-solved real world issues, and to engage in entrepreneurial activities and work-based learning experiences that provide hands-on application.

Pathways/Career Opportunities:

Pathway	Potential Career Opportunities
Culinary & Food Services	Chef/Cook, Baker, Entrepreneur, Food Inspector
Early Childhood Education	Early Childhood Educator, Psychologist, Nanny, Pediatrician, Midwife

Pathway: Culinary & Food Services

Pathway Description: The Culinary & Food Service pathway addresses a skill set necessary for success in the culinary industry. The courses in this pathway will help students develop skills in early career ladder positions and promote continuing education at the post-secondary level preparing for careers associated with restaurants, institutional food service, hospitality and catering, as well as food and beverage operations.

Career Pathway Chart:

GRADE	ENGLISH	MATH	SCIENCE	SOCIAL STUDIES	REQUIRED COURSES AND RECOMMENDED COURSES FOR PATHWAY		CAREER-READY MEASURE
9 TH	English 9	Algebra I	Integrated Science	Integrated Social Studies	FACS Life Skills/Health***		
10 TH	English 10	Geometry	Biology	World Civilizations	Foods and Nutrition	Principles of Hospitality	
11 TH	English 11	Algebra II	Chemistry	U.S. History	Culinary Arts I*	<i>Advanced Foods and Nutrition</i>	
12 TH	English 12	Fourth Year of Math			Culinary Arts II** (Course taught as a 2 hour block over two semesters)	WBL/Co-Op	Industry Certification and/or KOSSA Exam: KOSSA, Pre-PAC Culinary Arts, ServSafe, ProStart, Articulated Credit with ACTC

*Recommendation from teacher and successful completion of foods and nutrition

**Recommendation from teacher and successful completion of Culinary I

***Interdisciplinary course for Health Credit

Courses in **bold** are required for the pathway. Courses *italicized* are recommended for pathway. NOTE: Graduation requirements also include one Arts/Humanities credit, ½ credits in Health, and ½ credits in Physical Education.

Pathway: Early Childhood Education

Pathway Description: The Early Childhood Education pathway will address a skill set necessary for success in early childhood education so that individuals can teach students ranging in age from infancy through eight years (grade three), depending on the school system or state regulations. This pathway is targeted for individuals preparing for careers related to early childhood education, such as those associated with child care, teaching, community-based children's programs, social services or counseling for children, and after-school programs.

Career Pathway Chart:

GRADE	ENGLISH	MATH	SCIENCE	SOCIAL STUDIES	REQUIRED COURSES AND RECOMMENDED COURSES FOR PATHWAY		CAREER-READY MEASURE
9 TH	English 9	Algebra I	Integrated Science	Integrated Social Studies	FACS Life Skills/Health***		
10 TH	English 10	Geometry	Biology	World Civilizations	Early Life Span Development		
11 TH	English 11	Algebra II	Chemistry	U.S. History	Child Care Services I*		
12 TH	English 12	Fourth Year of Math			Child Care Services II**	WBL/Co-Op	Industry Certification and/or KOSSA Exam: CCCC, KOSSA, Pre-PAC, CDA, Articulation Credit

*Recommendation from teacher and successful completion of Early Life Span Development

**Recommendation from teacher and successful completion of Child Care Services I

***Interdisciplinary course for Health credit

Courses in **bold** are required for the pathway. Courses *italicized* are recommended for the pathway.

CCC-Commonwealth Child Care Credential CDA-Child Development Associates

NOTE: Graduation requirements also include one Arts/Humanities credit, ½ credits in Health, and ½ credits in Physical Education.

Program Area: Health Sciences

Program Description: The Health Science Program provides the secondary student with orientation, exploration, and preparation into the health care industry. Courses are sequenced to provide continuous student progress toward achievement of a career goal in any of the Health Science pathways. The vital integration of literacy, numeracy, science, employability, 21st Century skills, and technical skills is a vital component of each course offering.

This program assists the student in developing essential skills to pursue a career in the health care field. After obtaining a satisfactory performance level in the health care core competencies, the student may obtain work experience in a health-related facility. Upon successful completion of the program, the student may receive dual/articulation credit through a college/university if an agreement is available.

Pathways/Career Opportunities:

Pathway	Potential Career Opportunities
EKG Technology/Technician	Diagnostic Medical Sonographer, Medical Assistant, Medical Lab Tech, Nurse, Radiologist
Medicaid Nursing Aide	LPN, Nurse, Nurse Practitioner, Nursing Assistant, Physician's Assistant, Doctor
Phlebotomy Technician	Medical Lab Tech, Phlebotomist
Pharmacy Technician	Pharmacy Technician
Pre-Health Care	LPN, Nurse, Nurse Practitioner, Nursing Assistant, Physician's Assistant, Specialty Physician

Pathway: EKG Technology/Technician-New 2016-2017!

Pathway Description: A program that prepares individuals, under the supervision of physicians and nurses, to administer EKG and ECG diagnostic examinations and report results to the treatment team. Includes instruction in basic anatomy and physiology, the cardiovascular system, medical terminology, cardiovascular medications and effects, patient care, EKG and ECG administration, equipment operation and maintenance, interpretation of cardiac rhythm, patient record management, and professional standards and ethics.

Career Pathway Chart:

GRADE	ENGLISH	MATH	SCIENCE	SOCIAL STUDIES	REQUIRED COURSES AND RECOMMENDED COURSES FOR PATHWAY		CAREER-READY MEASURE
9TH	English 9	Algebra I	Integrated Science	Integrated Social Studies	Principles of Health Science*		
10TH	English 10	Geometry	Biology	World Civilizations	Principles of Health Science	Emergency Procedures** and Dosage Calculations***	
11TH	English 11	Algebra II	Chemistry	U.S. History	Anatomy and Physiology or Anatomy/Physiology I*** (dual credit)	Medical Terminology*** (Dual credit)	
12TH	English 12	Fourth Year of Math			Internship: EKG Technician		Industry Certification: Certified EKG Technician (CET) Exam

*Freshman students require a recommendation from Counselor/Teacher and a GPA of 3.0 or above. **Indicates half-credit ***Dual credit through ACTC. ACTC may require specific ACT scores in Reading.

Courses in **bold** are required for the pathway. Courses *italicized* are recommended for the pathway.

NOTE: Graduation requirements also include one Arts/Humanities credit, ½ credits in Health, and ½ credits in Physical Education.

Pathway: Medicaid Nursing Aid

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

Career Pathway Chart:

GRADE	ENGLISH	MATH	SCIENCE	SOCIAL STUDIES	REQUIRED COURSES AND RECOMMENDED COURSES FOR PATHWAY		CAREER-READY MEASURE
9TH	English 9	Algebra I	Integrated Science	Integrated Social Studies	Principles of Health Science*		
10TH	English 10	Geometry	Biology	World Civilization	Principles of Health Science	Emergency Procedures** and Dosage Calculations**	
11TH	English 11	Algebra II	Chemistry	U.S. History	Medical Terminology*** (Dual credit)	<i>Anatomy and Physiology or Anatomy/Physiology I*** (Dual credit)</i>	
12TH	English 12	Fourth year of Math			Medicaid Nurse Aide and Co-op (Nursing) Courses taught as a 2 period block over two semesters		Industry Certification: State Registered Nursing Assistant (SRNA)/Medicaid Nurse Aide (MNA)

*Freshman students require a recommendation from Counselor/Teacher and a GPA of 3.0 or above. **Indicates half-credit course.

***Dual credit through ACTC. ACTC may require specific ACT scores in Reading.

Courses in **bold** are required for the pathway. Courses italicized are recommended for the pathway.

NOTE: Graduation requirements also include one Arts/Humanities credit, ½ credits in Health, and ½ credits in Physical Education

Pathway: Phlebotomy Technician

Pathway Description: A program that prepares individuals, under the supervision of physicians and other health care professionals, to draw blood samples from patients using a variety of intrusive procedures. Includes instruction in basic vascular anatomy and physiology, blood physiology, skin puncture techniques, venipuncture, venous specimen collection and handling, safety and sanitation procedures, and applicable standards and regulations.

Career Pathway Chart:

GRADE	ENGLISH	MATH	SCIENCE	SOCIAL STUDIES	REQUIRED COURSES AND RECOMMENDED COURSES FOR PATHWAY			CAREER-READY MEASURE
9TH	English 9	Algebra I	Integrated Science	Integrated Social Studies	Principles of Health Science*			
10TH	English 10	Geometry	Biology	World Civilization	Principles of Health Science	<i>Emergency Procedures** and Dosage Calculations**</i>		
11TH	English 11	Algebra II	Chemistry	U.S. History	Anatomy and Physiology or Anatomy/Physiology I*** (Dual credit)	Medical Terminology*** (Dual credit)		
12TH	English 12	Fourth Year of Math			Internship: Medical Laboratory Aide (Phlebotomist)			Industry Certification: Phlebotomy Technician Certification Exam (CPT)

*Freshman students require a recommendation from Counselor/Teacher and a GPA of 3.0 or above. **Indicates half-credit course.

***Dual credit through ACTC. ACTC may require specific ACT scores in Reading.

Courses in **bold** are required for the pathway. Courses *italicized* are recommended for the pathway.

NOTE: Graduation requirements also include one Arts/Humanities credit, ½ credits in Health, and ½ credits in Physical Education.

Pathway: Pharmacy Technician-New 2016-2017!

Pathway Description: A program that prepares individuals, under the supervision of pharmacists, to prepare medications, provide medications and related assistance to patients, and manage pharmacy clinical and business operations. Includes instruction in medical and pharmaceutical terminology, principles of pharmacology and pharmaceuticals, drug identification, pharmacy laboratory procedures, prescription interpretation, patient communication and education, safety procedures, record-keeping, measurement and testing techniques, pharmacy business operations, prescription preparation, logistics and dispensing operations, and applicable standards and regulations.

Career Pathway Chart:

GRADE	ENGLISH	MATH	SCIENCE	SOCIAL STUDIES	REQUIRED COURSES AND RECOMMENDED COURSES FOR PATHWAY		CAREER-READY MEASURE
9TH	English 9	Algebra I	Integrated Science	Integrated Social Studies	Principles of Health Science*		
10TH	English 10	Geometry	Biology	World Civilization	Principles of Health Science	Emergency Procedures** <i>Dosage Calculations**</i>	
11TH	English 11	Algebra II	Chemistry	U.S. History	Anatomy and Physiology or Anatomy/Physiology I*** (Dual credit)	Medical Terminology*** (Dual credit)	
12TH	English 12	Fourth Year of Math			Internship: Pharmacy Technician		Industry Certification: Pharmacy Technician Certification Board (CPhT)

*Freshman students require a recommendation from Counselor/Teacher and a GPA of 3.0 or above. **Indicates half-credit course.

***Dual credit through ACTC. ACTC may require specific ACT scores in Reading.

Courses in **bold** are required for the pathway. Courses *italicized* are recommended for the pathway.

NOTE: Graduation requirements also include one Arts/Humanities credit, ½ credits in Health, and ½ credits in Physical Education.

Pathway: Pre-Health Care-ACTC

*****Please see Blazer Course Catalog 2016-2017 for further details.**

Program Area: Junior Reserve Officers' Training Corps. (JROTC)

Program Description: The JROTC program engages students in the practice of basic citizenship customs, traditions and in the exploration of opportunities for non-military and military national service. Orients students to the purpose of the JROTC programs and to their roles as cadets. Develops student leadership potential through the application of principles, values, and strategies. Prepares students to work effectively as team members and leaders. Emphasizes the role of the leader in promoting equal-opportunity, addressing prejudice, and preventing sexual harassment and assault. Builds essential skills students need to maximize learning potential and future success, and lays the groundwork for service learning. Recognizing the value of their varied learning styles and multiple intelligences, students apply learning strategies to improve critical thinking, study, problem solving, and communication skills. Course offerings promote career opportunities for those entering the industry, military, and post-secondary.

Pathways/Career Opportunities:

Pathway	Potential Career Opportunities
Military US Army Jr. ROTC	Military Career, Administrative Personnel, Construction Personnel, Electronic And Electrical Equipment Repair Personnel, Engineering, Science, and Technical Personnel, Healthcare Personnel, Media and Public Affairs Personnel

Pathway: Military US Army Jr. ROTC

Pathway Description: A program that introduces students to the theory and practice of military science, life in the U.S. Army, and prepares them for cadet status (Junior ROTC or JROTC) or for service as commissioned reserve or active duty officers (senior AROTC or ROTC). Programs are offered as adjuncts to regular high school instructional programs.

Career Pathway Chart:

GRADE	ENGLISH	MATH	SCIENCE	SOCIAL STUDIES	REQUIRED COURSES AND RECOMMENDED COURSES FOR PATHWAY			CAREER-READY MEASURE
					JROTC Leadership Development 1	1/2 Credit for PE		
9TH	English 9	Algebra I	Integrated Science	Integrated Social Studies	JROTC Leadership Development 1	1/2 Credit for PE		
10TH	English 10	Geometry	Biology	World Civilizations	JROTC Leadership Development 2			
11TH	English 11	Algebra II	Chemistry	U.S. History	JROTC Leadership Development 3		Completion of 3 Years JROTC and a score of 50 or higher on ASVAB test, or meet benchmarks on ACT or KOSSA	
12TH	English 12	Fourth Year of Math			JROTC Leadership Development 4	<i>Senior Leader</i>		

Courses in **bold** are required for the pathway. Courses *italicized* are recommended for the pathway.

NOTE: Graduation requirements also include one Arts/Humanities credit, ½ credits in Health, and ½ credits in Physical Education.

Program Area: Project Lead the Way (PLTW)

Program Description: Project Lead The Way provides a comprehensive approach to STEM Education. Through activity-, project-, and problem-based curriculum, PLTW gives students a chance to apply what they know, identify problems, find unique solutions, and lead their own learning. PLTW is a program that generally prepares individuals to apply mathematical and scientific principles to solve a wide variety of practical problems in industry, social organization, public works, and commerce. Includes instruction in undifferentiated and individualized programs in engineering.

Pathways/Career Opportunities:

Pathway	Potential Career Opportunities
Biomedical	Biologist, Biomedical Engineer, Biotechnologist, Coroner, Doctor, Forensic Scientist, Nurse, Pharmacist, Surgeon
Engineering/Manufacturing	Engineering Technology Instructor, Production Woodworker, Manufacturing Manager, Manufacturing Worker, Electronics Assembler, Industrial Engineer, Industrial Technician, Quality Controller
Engineering/Architecture (Coming 2017-2018)	Architect, Interior Designer, Electrical Engineer, Civil Engineer, Electronics Engineer
Pre-Engineering-ACTC	Engineering field opportunities

Pathway: Biomedical

Pathway Description: The challenging and relevant four-course PLTW Biomedical Science sequence allows students to investigate the roles of biomedical professionals as they study the concepts of human medicine, physiology, genetics, microbiology, and public health. Students engage in activities like investigating the death of a fictional person to learn content in the context of real-world cases. They examine the structures and interactions of human body systems and explore the prevention, diagnosis, and treatment of disease; all while working collaboratively to understand and design solutions to the most pressing health challenges of today and the future.

Career Pathway Chart:

GRADE	ENGLISH	MATH	SCIENCE	SOCIAL STUDIES	REQUIRED COURSES AND RECOMMENDED COURSES FOR PATHWAY		CAREER-READY MEASURE
9TH	English 9	Algebra I	Integrated Science	Integrated Social Studies	Principles of Biomedical Science	<i>Accelerated Biology</i>	
10TH	English 10	Geometry	Biology	World Civilizations	Human Body Systems	<i>Accelerated Chemistry or Accelerated Chemistry and AP Biology</i>	
11TH	English 11	Algebra II	Chemistry	U.S. History	Medical Interventions	<i>AP Biology or AP Chemistry</i>	
12TH	English 12	Fourth Year of Math			Capstone Course-Biomedical Innovation (Classroom instruction and an internship will be part of this course.)	<i>AP Chemistry or Dual Enrollment Anatomy</i>	Industry Certification and/or KOSSA Exam: Allied Health

Courses in **bold** are required for the pathway. Courses *italicized* are recommended for the pathway.

NOTE: Graduation requirements also include one Arts/Humanities credit, ½ credits in Health, and ½ credits in Physical Education.

Pathway: Engineering-New 2016-2017!

Pathway Description: In PLTW Engineering, students engage in open-ended problem solving, learn and apply the engineering design process, and use the same industry-leading technology and software as are used in the world's top companies. Students are immersed in design as they investigate topics such as sustainability, mechatronics, forces, structures, aerodynamics, digital electronics and circuit design, manufacturing, and the environment, which gives them an opportunity to learn about different engineering disciplines before beginning post-secondary education or careers.

Career Pathway Chart:

Program Area: Project Lead The Way

Pathway: Engineering/Manufacturing

GRADE	ENGLISH	MATH	SCIENCE	SOCIAL STUDIES	REQUIRED COURSES AND RECOMMENDED COURSES FOR PATHWAY			CAREER-READY MEASURE
9TH	English 9	Algebra I	Integrated Science	Integrated Social Studies	Introduction to Engineering Design (IED)			
10TH	English 10	Geometry	Biology	World Civilizations	Principles of Engineering (POE)*			
11TH	English 11	Algebra II	Chemistry	U.S. History	Computer Integrated Manufacturing (CIM)			
12TH	English 12	Fourth Year of Math			Engineering and Technology Internship**			KOSSA Engineering and Technology Manufacturing

*Course to be added in 2017-2018

**Course to be added in 2018-2019

Courses in **bold** are required for the pathway. Courses *italicized* are recommended for the pathway.

NOTE: Graduation requirements also include one Arts/Humanities credit, ½ credits in Health, and ½ credits in Physical Education.

Career Pathway Chart:

Program Area: Project Lead The Way

Pathway: Engineering/Architecture-New 2017-2018!

GRADE	ENGLISH	MATH	SCIENCE	SOCIAL STUDIES	REQUIRED COURSES AND RECOMMENDED COURSES FOR PATHWAY			CAREER-READY MEASURE
9TH	English 9	Algebra I	Integrated Science	Integrated Social Studies	Introduction to Engineering Design (IED)			
10TH	English 10	Geometry	Biology	World Civilizations	Principles of Engineering (POE)*			
11TH	English 11	Algebra II	Chemistry	U.S. History	Civil Engineering and Architecture (CEA)*			
12TH	English 12	Fourth Year of Math			Engineering and Technology Internship**			KOSSA Engineering and Technology Manufacturing

*Course to be added in 2017-2018

**Course to be added in 2018-2019

Courses in **bold** are required for the pathway. Courses *italicized* are recommended for the pathway.

NOTE: Graduation requirements also include one Arts/Humanities credit, ½ credits in Health, and ½ credits in Physical Education.

Pathway: Pre-Engineering

*****Please see Blazer Course Catalog 2016-2017 for further details.**

Program Area: Technology Education

Program Description: Technology courses develop and enhance students' technological literacy or understanding of how technological systems function and impact society, the environment, and the global economy. Technology is activity based and includes topics related to invention, intervention, and innovation. These educational goals can be accomplished through a variety of means, including, but not limited to research and presentations, discussions, and field experiences. The design, construction, and testing of various projects is part of this career path. Instruction in graphics, two-dimensional and three-dimensional design, computer-aided drafting (CAD), and computer –aided design (CADD) is embedded in this pathway.

Pathways/Career Opportunities:

Pathway	Potential Career Opportunities
Manufacturing Technology/Technician	Production Woodworker, Manufacturing Manager, Manufacturing Worker

Pathway: Manufacturing Technology/Technician

Pathway Description: A program that prepares individuals to apply basic engineering principles, mathematical and scientific principles to the design, development and operational evaluation of integrated systems for managing industrial production processes, just-in-time manufacturing, industrial quality control, automation, cost analysis, and technical skills to the identification and resolution of production problems in the manufacture of products. Includes instruction in machine operations, production line operations, engineering analysis, systems analysis, instrumentation, physical controls, automation, computer-aided manufacturing (CAM), manufacturing planning, quality control, and informational infrastructure.

Career Pathway Chart:

Grade	English	Math	Science	Social Studies	Required Courses and Recommended Courses for Pathway		Career-Ready Measure
9 th	English 9	Algebra I	Integrated Science	Integrated Social Studies	Foundation of Technology	<i>Fundamental Engineering Design I</i>	
10 th	English 10	Geometry	Biology	World Civilizations	Material Process	<i>Engineering Design II</i>	
11 th	English 11	Algebra II	Chemistry	U.S. History	Intro Manufacturing & Manufacturing Systems		
12 th	English 12	Fourth Year of Math			Special Topics Engineering		Industry Certification and/or KOSSA Exam: KOSSA Manufacturing & Autodesk Inventor Certified User

Courses in **bold** are required for the pathway. Courses *italicized* are recommended for the pathway.

NOTE: Graduation requirements also include one Art/Humanities credit, ½ credits in Health, and ½ credits in Physical Education.

Program Area: Engineering & Technology Education-Coming 2017-2018!

Program Description: Project Lead the Way and the Office of Career and Technology Education have worked together to create further opportunities for students that are enrolled in secondary Career & Technical Education (CTE) specific programs. These are referred to as Hybrid pathways that consist of courses within the specific program area with the addition of selected PLTW Engineering courses relative to that career area. These pathways blend Career & Technical Education (CTE) courses with Project Lead The Way (PLTW) courses to help students apply technical skills along with science, technology, engineering, and math (STEM) skills to solve real-world problems and to meet the demands of industry for individuals with both technical and engineering knowledge and skills.

Pathways/Career Opportunities:

Pathway	Potential Career Opportunities
Construction Architectural Engineering	Flooring Engineer, Construction Engineer, Structural Engineer
Structural Engineering	Engineering Technology Instructor, Architect, Interior Designer, Home Improvement Contractor, Carpenter, Construction Laborer, Construction Manager, Construction Supervisor, Project Manager

Pathway: Construction Architectural Engineering

Pathway Description: This pathway provides the opportunity to blend Career & Technical Education (CTE) courses with Project Lead the Way (PLTW) courses to help students apply technical skills along with science, technology, engineering, and math (STEM) skills to solve real-world problems. A program that prepares individuals to apply basic engineering principles and technical skills in support of architects, engineers and planners engaged in designing and developing buildings, urban complexes, and related systems. Includes instruction in design testing procedures, building site analysis, model building and computer graphics, structural systems testing, analysis of prototype mechanical and interior systems, report preparation, basic construction and structural design, architectural rendering, architectural-aided drafting (CAD), layout and designs, architectural blueprint interpretation, building materials, and basic structural wiring diagramming.

Pathway: Structural Engineering

Pathway Description: This pathway provides the opportunity to blend Career & Technical Education (CTE) courses with Project Lead the Way (PLTW) courses to help students apply technical skills along with science, technology, engineering, and math (STEM) skills to solve real-world problems. A program that prepares individuals to apply basic engineering principles and technical skills in support of architects, engineers and planners engaged in designing and developing buildings, urban complexes, and related systems. Includes instruction in design testing procedures, building site analysis, model building and computer graphics, structural systems testing, analysis of prototype mechanical and interior systems, report preparation, basic construction and structural design, architectural rendering, architectural-aided drafting (CAD), layout and designs, architectural blueprint interpretation, building materials, and basic structural wiring diagramming.

Notes: