Course Guide

USD 232
2022-2023

De Soto High School
Home of the Wildcats
35000 W. 91st Street
De Soto, Kansas 66018
913-667-6250

Mill Valley High School
Home of the Jaguars
5900 Monticello Road
Shawnee, Kansas 66226
913-422-4351

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25 Total Credits		
Courses may only count toward 1 category. See course guide for more information. Courses marked with CT are only offer at Cedar Trails Exploration Center; courses marked with D are only offered at De Soto High School; and courses marked with MV are only offered at Mill Valley High School. Courses are a yearlong (1 credit) unless otherwise noted.		
English Language Arts 4 Total Credits	**Mathematics 4 Total Credits**	**Social Science 3.5 Total Credits**
English 9 or Honors English 9 English 10 or Honors English 10 English 11 AP Language & Composition English 12 AP Literature & Composition	Integrated Math I or Honors Integrated Math I Integrated Math II or Honors Integrated Math II Integrated Math III Pre-Calculus AP Calculus AB AP Calculus BC AP Statistics College Algebra Intermediate Algebra Applications of Math	World Geography (.5) or Honors World Geo (.5) Civics (.5) or Honors Civics (.5) World History AP European History US History AP US History AP US Government & Politics (.5) Political Participation (.5) Constitutional Law (.5)
Communications .5 Total Credit	**Physical Education / Health 1.5 Total Credits**	**Science 3 Total Credits**
Communication (.5) Argumentation & Debate Fnd (D)(.5) Debate (.5) Advanced Debate (.5) Forensics (.5) Advanced Forensics (.5) Drama (.5) Advanced Drama (.5) Repertory Theatre AV Production Fundamentals (.5) Business Communications (MV) (.5) Teaching as a Career Teacher Internship	Boys / Girls Physical Education Health (.5)	Biology or Honors Biology AP Biology Chemistry or Honors Chemistry AP Chemistry Introduction to Organic Chemistry (MV)(.5) Physical Science Physics AP Physics 1 AP Physics 2 AP Physics C: Mechanics (MV) (.5) AP Physics C: Electricity & Magnetism (MV) (.5) Human Anatomy & Physiology Environmental Science (MV) (.5) AP Environmental Science Plants & the Environment (MV)(.5) Kansas Natural History (D) Marine Science (MV) Zoology (MV) Environmental Resources & Wildlife Science Biochemistry Workplace Experience (CT) Biotechnical Engineering (CT) Biomedical Innovation (CT) Biomedical Research/Workplace Experience (CT) Medical Interventions (CT)
Fine Arts 1 Total Credit		
Art I (.5) Art II (D)(.5) Survey of Fine Crafts (MV)(.5) Drawing (.5) Painting (.5) Ceramics (MV)(.5) Sculpture (.5) Advanced Sculpture (.5) Advanced Ceramics (MV)(.5) Advanced Drawing (MV)(.5) Advanced Painting (MV)(.5) AP Art & Design Principles of Illustration (CT) (.5)	Graphic Design Fundamentals (CT & MV)(.5) Graphic Design (CT & MV) Emerging Technologies (CT) Graphic Design Workplace Exper. (CT & MV) Forensics (.5) Advanced Forensics (.5) Drama (.5) Advanced Drama (.5) Stagecraft (.5) Repertory Theatre Choir Foundations Wildcat Chorale (D) Treble Choir Chamber Choir Jag Chorale (MV) Class Piano for Beginners (.5)	Symphonic Band (.5) Fall Concert Band (.5)(D) Concert Band (.5)(D) Jazz Band Freshman Band (D) Marching Band (.5) Wind Ensemble (.5) Music Appreciation (MV)(.5) Percussion Ensemble (.5)(D) History of Rock and Roll (.5) Multi-Media Music (.5) Music Theory (.5) Music Composition (.5) AP Music Theory Applied Instrumental Music (.5)

25 Total Credits (continued)		
Technology **2 Total Credits**		
Multi-Media Music (.5) Music Theory (.5) AP Music Theory Music Composition (.5) Business Essentials (.5) Consumer & Personal Finance (.5) Accounting Advanced Accounting Investing (MV)(.5) Finance Workplace Experience Emerging Technologies (CT) Drafting/CAD Architectural Design Interior Architectural Design (.5) Research & Design in Building Trades (MV) Research & Design for Pre-Construction 21st Century Journalism (.5) AV Production Fundamentals (.5) Photo Imaging (.5) Graphic Design Fundamentals (CT & MV)(.5) Principles of Illustration (CT) (.5) Graphic Design (CT & MV) Graphic Design Workplace Exper. (CT & MV) Business Communications (MV) (.5)	Video Production I Video Production II Video Production III (MVHS) Digital Media Design: Newspaper Digital Media Design: Yearbook Digital Media Design Broadcast I Digital Media Design Broadcast II (MV) Digital Media Design Broadcast III (MV) Digital Media Project Management Engineering Design Principles of Applied Engineering Computer Integrated Manufacturing (CT) Engineering Design & Development (CT) Digital Electronics (CT) Robotics I (CT) Robotics Capstone (CT) Engineering Workplace Experience Biotechnical Engineering (CT) Computer Graphics Animation (CT) Game Design (CT) Marketing Sports & Entertainment Marketing (D) (.5) Marketing Applications Marketing Workplace Experience Web Page Design Graphic Design Fundamentals (CT & MV)(.5)	AP Computer Science Principles (CT) AP Computer Science A (CT) Cybersecurity (CT) Programming & Software Dev. Pro. Mngmt. (CT) Web & Digital Comm Project Mngmt. Internship Student Technology Internship EDTEC Classes (Credit varies by program) JCCC TEC Classes (Credit varies by program) KCKCC TEC Classes (Credit varies by program)
Electives **5.5 Total Credits**		
Creative Writing I (.5) Creative Writing II (.5) Sports Literature (MV) (.5) Current Social Issues (MV)(.5) Psychology (.5) AP Psychology Archeology & Artifacts (.5) Archeology Research & Restoration (.5) Sociology of Community Service (MV)(.5) Team Sports (.5) Lifetime Sports (.5) Strength & Conditioning (.5) Advanced Strength & Conditioning (.5) Cardio Fitness (.5) Dance (MV) French I French II French III French IV French V (MV) Spanish I Spanish II Spanish III Spanish IV Spanish V (MV) AP Spanish Language & Culture (D) Business Communications (MV) (.5)	ACT Prep (.5) Work Experience (MV)(.25) Peers in Learning (.5) Teacher's Aide (.25) AVID 9 (D) AVID 10 (D) Senior Symposium (D)(2) AP Research AP Seminar (D) Career and Life Planning (.5) Human Growth and Development (.5) Family Studies (.5) Nutrition and Wellness (.5) Culinary Essentials (.5) Leadership Service in Action (.5) Career Connections (.5) Community Connections (.5) Teaching as a Career Teacher Internship Biomedical Innovation (CT) Medical Interventions (CT) Biochemistry Workplace Experience Biomedical Research / Wrkpl. Exper. (CT) Residential Carpentry I Woodworking Residential Carpentry II Construction & Design Workplace Exper.	Introduction to Welding (CT)(.5) Production Blueprint Reading (CT)(.5) Production Methods I (CT) Production Methods II (CT) Research & Design for Manufacturing (CT) EDTEC Classes (Credit varies by program) JCCC TEC Classes (Credit varies by program) KCKCC TEC Classes (Credit varies by program)

High School Graduates Academic Year 2020-2021 and After

Qualified Admissions

The six state universities in Kansas–Emporia State University, Fort Hays State University, Kansas State University, Pittsburg State University, The University of Kansas, and Wichita State University–use the standards below, set by the Kansas Board of Regents, to review applicants for undergraduate admission.

ACCREDITED HIGH SCHOOL
Freshmen applicants, aged 21 & younger, who graduate from an accredited high school, will be guaranteed admission to six state universities by meeting the Qualified Admissions requirements designated by each university, as follows:

ESU, PSU, FHSU, & WSU:

- ACT 21+ (SAT 1060) or Cumulative GPA 2.25+*
- Cumulative GPA 2.0+ for College Credit earned in High School

K-State:

- ACT 21+ (SAT 1060) or GPA 3.25+*
- Cumulative GPA 2.0+ for College Credit earned in High School

KU:

- ACT 21+ (SAT 1060) and Cumulative GPA 3.25+
  or ACT 24+ (SAT 1160) and Cumulative GPA 3.0+*
- Cumulative GPA 2.0+ for College Credit earned in High School

***COVID-19 Admission Changes**

KBOR institutions are making accommodations for students unable to take ACT tests.

Contact each institution to see about test optional policies

KANSAS SCHOLARS CURRICULUM IS RECOMMENDED BUT NOT REQUIRED: To best prepare for the rigor of college level courses, following Kansas Scholars curriculum is recommended.

One unit is equivalent to one year, or two semesters:

English	Math	Social Science	Science	World Language
4 units	**4 units** 1 unit of each: Algebra I, Geometry, Algebra II 1 unit: Advanced Math See KS Scholars page for Math course list	3 units 1 unit of U.S History .5 unit of U.S. Gov .5 unit of World History 1 unit: Social Science course See KS Scholars page for Social Science course list	3 units 1 unit of each: Biology, Chemistry & Physics	2 units of the same language

KANSAS SCHOLARS PROGRAM: More information about the Kansas Scholars Scholarship & Curriculum can be found here (pdf).

HOMESCHOOL & UNACCREDITED HIGH SCHOOL
Freshman applicants, aged 21 and younger, who are homeschooled or graduate from an unaccredited high school will be guaranteed admission to the six state universities by achieving an ACT score equivalent with those outlined above, per each university. If you enroll in college courses while in high school, it is also required that you achieve a 2.0 GPA or higher in those courses.
If you do not meet the qualified admission requirements, you are still encouraged to apply. Your application will be reviewed individually. Contact the university admissions office for more information.

This document provides a summary overview of admission requirements at state universities and is not a substitute for or to be used in lieu of the actual detailed admissions requirements, which can be found at: www.kansasregents.org/qualified_admissions_rules_regulations.

Date: October 2020

NCAA Eligibility Center

ONE OPPORTUNITY. LIMITLESS POSSIBILITIES.

If you want to play sports at an NCAA Division I or II school, start by registering for a Certification Account with the NCAA Eligibility Center at **eligibilitycenter.org**. If you want to play Division III sports or you aren't sure where you want to compete, start by creating a Profile Page at **eligibilitycenter.org**.

ACADEMIC REQUIREMENTS

To play sports at a Division I or II school, you must graduate from high school, complete 16 NCAA-approved core courses, earn a minimum GPA and earn an ACT or SAT score that matches your core-course GPA.

CORE COURSES

Only courses that appear on your high school's list of NCAA core courses will count toward the 16 core-course requirement; visit **eligibilitycenter.org/courselist** for a full list of your high school's approved core courses. Complete 16 core courses in the following areas:

DIVISION I

Complete 10 NCAA core courses, including seven in English, math or natural/physical science, before your seventh semester.

ENGLISH	MATH (Algebra I or higher)	NATURAL/ PHYSICAL SCIENCE (Including one year of lab, if offered)	ADDITIONAL (English, math or natural/physical science)	SOCIAL SCIENCE	ADDITIONAL COURSES (Any area listed to the left, foreign language or comparative religion/philosophy)
4 years	3 years	2 years	1 year	2 years	4 years

DIVISION II

ENGLISH	MATH (Algebra I or higher)	NATURAL/ PHYSICAL SCIENCE (Including one year of lab, if offered)	ADDITIONAL (English, math or natural/physical science)	SOCIAL SCIENCE	ADDITIONAL COURSES (Any area listed to the left, foreign language or comparative religion/philosophy)
3 years	2 years	2 years	3 years	2 years	4 years

GRADE-POINT AVERAGE

The NCAA Eligibility Center calculates your grade-point average based only on the grades you earn in NCAA-approved core courses.

- DI requires a minimum 2.3 GPA.
- DII requires a minimum 2.2 GPA.

SLIDING SCALE

Divisions I and II use sliding scales to match test scores and GPAs to determine eligibility. The sliding scale balances your test score with your GPA. If you have a low test score, you need a higher GPA to be eligible. Find more information about test scores at **ncaa.org/test-scores**.

TEST SCORES

You may take the SAT or ACT an unlimited number of times before you enroll full time in college. Every time you register for the SAT or ACT, use the NCAA Eligibility Center code 9999 to send your scores directly to us from the testing agency. We accept official scores only from the ACT or SAT, and won't use scores shown on your high school transcript. If you take either test more than once, the best subscore from different tests are used to give you the best possible score.

Ways to Earn College Credit While Still in High School

Advanced Placement

Certain advanced courses in the high school program are designated Advanced Placement (AP). The AP examinations given each May, on a standardized national test day, are scored by the Education Testing Service. Each examination receives an overall score on a five-point scale:

- 5 points = extremely well qualified
- 4 points = well qualified
- 3 points = qualified
- 2 points = possibly qualified
- 1 point = no recommendation

Each college decides which AP examination scores it will accept. Some colleges accept scores of 3 or better and give the student credit as if that person had taken one or more basic courses in the subject tested. In some cases, credit is not given, but the necessity of taking basic courses is waived. Students can check individual college AP credit policies by using the College Search on the College Board website.
It is recommended that college bound students consider taking one or more AP courses. Research shows students completing one or more AP courses, regardless of their grade, do better in college than those never taking AP courses. The current cost is approximately $96 per AP exam.

Dual Credit Enrollment

JCCC: The College Now program for high school sophomores, juniors, and seniors is offered in cooperation with Johnson County Community College. A student must complete a JCCC application, placement tests or qualifying ACT, and provide payment for tuition. A high school transcript is not required at the time of enrollment. College Now classes are aligned with the curriculum at JCCC, but are taught in the high school classroom. For more information, go to www.jccc.edu/collegenow.

Baker University: Baker Concurrent Credit Classes are college classes taken by qualified high school students that concurrently count toward high school graduation and college degree courses. Partner high schools work with Baker to seek approval for particular instructors and courses within the school. Baker and the high school both transcript the students' grades. Students from a partner high school district who are in an approved Concurrent Credit Class and have a cumulative high school GPA of 3.0 or higher are eligible to earn Baker credit. Eligible students must be recommended by their high school counselor. www.bakeru.edu/concurrent-credit/

Wichita State: Courses are offered in the area of engineering through Wichita State for concurrent credit. Students who are in the engineering pathway will be provided information from their instructors to earn college credit. https://www.wichita.edu/admissions/undergraduate/concurrent.php

KCKCC TEC: Course are offered in the area of technical education. Students can earn college credits and certifications upon completion of the program. https://www.kckcc.edu/academics/divisions/technology-workforce-development/index.html

JCCC Excel in CTE: Johnson County Community College and USD 232 have a CTE partnership that provides students with the opportunity to earn credits towards an automotive certification, certified nursing assistant certification and a certification in metal fabrication/welding.
https://www.jccc.edu/academics/credit/automotive-technology/
https://www.jccc.edu/academics/credit/nursing/certified-nurse-aide/
https://www.jccc.edu/academics/credit/welding/

Quick Step

Quick Step is for high school students who want to enroll in classes on the Johnson County Community College campus. 10th - 12th graders may enroll in JCCC courses. Students interested in the Quick Step program should contact their counselor for procedures.

Courses Available for Advanced Placement/Dual Credit Enrollment

Dual credit enrollment course offerings are dependent upon current staffing qualifications as required by the educational institution and can change after publication of this course guide.

	Advanced Placement	JCCC	Baker University	Wichita State	KCKCC TEC
AP Biology	X	X (MVHS)			
AP Physics 1	X		X (MVHS)		
AP Physics 2	X		X (MVHS)		
AP Physics C	X (MVHS)				
AP Chemistry	X	X (MVHS & CTEC)			
AP Environmental Science	X				
Anatomy and Physiology			X (MVHS)		
AP Statistics	X	X (DHS)	X (MVHS)		
Pre-Calculus		X			
AP Calculus AB	X	X			
AP Calculus BC	X	X			
College Algebra		X			
AP Computer Science Principles	X (CTEC)	X (CTEC)			
AP Computer Science A	X (CTEC)	X (CTEC)			
AP Language & Composition	X	X			
AP Literature & Composition	X	X			
Communications			X (MVHS)		
AP Music Theory	X	X			
AP Psychology	X				
AP European History	X				
AP US History	X		X (MVHS)		
AP Government & Politics	X		X (MVHS)		
AP Art & Design	X				
French III		X (DHS)			
French IV		X (DHS)			
French V		X (MVHS)			
Spanish IV		X			
Spanish V		X (MVHS)			
AP Spanish Language & Culture	X (DHS)	X (DHS)			
AP Seminar	X				
AP Research	X (DHS)				
Engineering Design				X (DHS)	
Digital Electronics				X (CTEC)	
Teaching as a Career			X		
Teaching Internship			X		
Marketing Workplace Experience		X (MVHS)			
Certified Nurse Asst. Certificate		X			X
Auto Collision I & II		X			X
Auto Technology I & II		X			X
Welding I & II		X			X
Automation Engineer Technology		X			
Construction Management		X			
Electronics Technology		X			

	Advanced Placement	JCCC	Baker University	Wichita State	KCKCC TEC
Electrical Technology		X			
HVAC Technology		X			
Plumbing Technology		X			

Advanced Placement vs. Dual Enrollment Credit				
	Advanced Placement Credit	JCCC College Now Credit	Baker University	Wichita State University
Cost	$96 per exam	$96 per credit hour	$110 per credit hour	$25 application $50 per credit hour
Transferring Credit	Accepted by almost all US colleges & universities including highly selective schools. The way the credit reflects on the transcript varies by institution. Can earn a letter grade, credit only or advancement to the next level.	Transfers to most state schools in and outside of Kansas.	Check transfer credit policy of the institutions you are interested in.	Check transfer credit policy of the institutions you are interested in.
How Credit is Earned	Achieving a score of 3, 4, or 5 on the AP exam in May. Check individual courses credit policy at www.collegeboard.org/ap/creditpolicy	Check transfer credit policy of the institutions you are interested in.	Check transfer credit policy of the institutions you are interested in.	Check transfer credit policy of the institutions you are interested in.
Amount of Credit Earned	Can depend on the score. Higher scores can earn more credit.	The credit hours assigned to the course. Usually 3 or 5 credit hours.	The credit hours assigned to the course. Usually 3 or 5 credits.	The credit hours assigned to the course. Usually 3 or 5 credits.
*Important – Students should check individual college credit policies for the institutions in which they are interested				

GPA Calculation and Weighted Grades

USD 232 implements a weighted grading system to recognize and reward academic work in selected Honors, AP, and approved Dual Credit courses. To compute grade point average, the total number of points earned is divided by the total number of credits attempted (not the total credits earned). Averages are figured cumulatively, that is, the total points for all semesters of school work are divided by the total number of credits attempted for all semesters.

Students transferring into USD232 will receive weighted grade credit only for courses designated as weighted courses by USD 232.

The weighted grading system will be used to determine USD232 student honors and distinctions, including class rank. Transcripts will reflect both weighted and unweighted grade point averages.

Note: the weight of each course is identified in the course description heading and course information table.

Letter Grade	Standard GPA	Honor Courses: Partial Weight (PW)	AP & Dual Credit Courses: Full Weight (FW)
A	4.0	4.5	5.0
B	3.0	3.5	4.0
C	2.0	2.5	3.0
D	1.0	1.0	1.0
F	0	0	0

Schedule Change Policy

It is essential that you choose your courses carefully. If you have questions about your course selection, visit with your counselor. Your school's student handbook/course selection form states the schedule change policy.

degreein3.ku.edu

THE UNIVERSITY OF KANSAS
Edwards Campus

WHAT IS DEGREE IN 3?
Degree in 3 is a partnership between the De Soto School District, Johnson County Community College, and the KU Edwards Campus that allows you to earn college credits in high school, complete an associate's degree one year after graduating, and finish your bachelor's degree two years later.

HIGH SCHOOL TIMELINE
8th-10th Grade
Develop your academic plan with your high school counselor. Consider selecting up to 30 college credits from the College Now courses offered through your high school.
10th-12th Grade
Apply and be admitted to JCCC. Complete approximately 30 college credits from College Now and Quick Step through JCCC.
12th Grade: Feb. 1
Apply to JCCC for degree. Complete the FAFSA and apply for financial aid and scholarships at JCCC.

MILESTONE
High School Diploma completion!

JCCC TIMELINE
Spring, Senior Year in High School
Attend New Student Orientation at JCCC, in-person or online. Meet with JCCC Counselor to discuss summer and fall courses, and how to stay on track to earn your degree. Utilize the JCCC/KU Edwards Transfer Guide.
Fall Semester
Meet with JCCC Counselor to plan spring classes and stay on track for May graduation. Meet with KU Edwards Academic Success Coach to plan transfer to KU Literature, Language, and Writing program.
Spring Semester
Apply for admission to KU Edwards by Feb. 1. Complete the FAFSA and apply for financial aid and scholarships at KU Edwards.

MILESTONE
Associate's Degree completion!

KU TIMELINE
Spring/Summer before KU enrollment
Attend New Student Orientation at KU Edwards.
Fall Semester 1
Meet with KU Edwards Academic Success Coach. Start thinking about career paths and internship opportunities.
Spring Semester 4
Apply for graduation by March 1.

MILESTONE
Bachelor's Degree completion!

Available Programs

BACHELOR OF ARTS/BACHELOR OF GENERAL STUDIES IN LITERATURE, LANGUAGE, AND WRITING (BA/BGS)

BACHELOR OF ARTS/GENERAL STUDIES IN LAW & SOCIETY (BA/BGS)

BACHELOR OF SCIENCE IN MOLECULAR BIOSCIENCES (BS)

BACHELOR OF APPLIED SCIENCE IN BIOTECHNOLOGY (BAS)

BACHELOR OF ARTS/GENERAL STUDIES IN PUBLIC ADMINISTRATION (BA/BGS)

BACHELOR OF BUSINESS ADMINISTRATION (BBA)

BACHELOR OF SCIENCE IN EXERCISE SCIENCE (BS)

JOHNSON COUNTY COMMUNITY COLLEGE

KU THE UNIVERSITY OF KANSAS Edwards Campus

See your counselor for more information.

English Language Arts

Course Title	Credit	Weight	KS Regents	College Credit	NCAA	9	10	11	12	Prerequisite
English 9	1		X		X	X				None
Honors English 9	1	PW	X		X	X				None
English 10	1		X		X		X			None
Honors English 10	1	PW	X		X		X			None
English 11	1		X		X			X		None
AP Language & Composition	1	FW	X	X	X			X		None
English 12	1		X		X				X	None
AP Literature & Composition	1	FW	X	X	X				X	None
Creative Writing I	0.5				X	X	X	X	X	None
Creative Writing II	0.5				X	X	X	X	X	Creative Writing I
Sports Literature	0.5					X	X	X	X	None

English 9 Grade 9

CAG10A/B Credit: 1

This course includes a balance of reading, writing, listening, and speaking skills. Students read novels, plays, short stories, poetry and non-fiction. Students will compose Narrative, Expository, Persuasive, and Technical writings. The class includes the study of literary terms, vocabulary and conventions, as well as the application of research skills.

Honors English 9 Grade 9

CAH10A/B Credit: 1

This rigorous course is intended to introduce and prepare students for Advanced Placement courses and exams. This course contains a balance of reading, writing, listening, and speaking skills. Students read novels, plays, short stories, poetry and non-fiction. Students will compose Narrative, Expository, Persuasive, and Technical writings. The class includes the application of research skills and the study of literary terms, vocabulary and conventions.

English 10 Grade 10

CAG20A/B Credit: 1

This course covers a multitude of genres including literature (poetry, drama, short stories, non-fiction, and novels), writing (narrative, persuasive, technical, and expository), and grammar and vocabulary usage.

Honors English 10 Grade 10

CAH20A/B Credit: 1

This rigorous course is intended to introduce and prepare students for Advanced Placement courses and exams. This course covers a multitude of genres including literature (poetry, drama, short stories, non-fiction, and novels), writing (narrative, persuasive, technical, and expository), and grammar and vocabulary usage. Students will be analyzing various writings that will enhance student's critical thinking skills, as well as write critical writing pieces.

English 11 Grade 11

CAG30A/B Credit: 1

This course studies grammar, vocabulary, expository, persuasive, technical and narrative writing, and American literature. The literature includes short stories, speeches, plays, novels, letters, and poetry by American authors. Each quarter, students explore the literature through reading, writing, discussion and projects. Students also practice speaking skills, researching skills and reading independently.

AP Language & Composition Grade 11

CAP30A/B Credit: 1

This rigorous course is intended to prepare students to take the AP English Language and Composition exam. AP English Language and Composition engages students in becoming skilled readers of prose written in a variety of rhetorical contexts, and in becoming skilled writers who compose for a variety of purposes. Both their writing and their reading should make students aware of the interactions among a writer's purposes, audience expectations, and subjects as well as the way generic conventions and the resources of language contribute to effectiveness in writing. The course requires that students be able to think, read, and write critically and creatively at an advanced level.

English 12 Grade 12

CAG40A/B Credit: 1

This class studies British literature from Anglo Saxon times to the present. Grammar and mechanics are reviewed. Formal composition skills are highly emphasized and focus on expository, persuasive, narrative and technical writing. Projects, portfolios, and class presentations encourage both written and oral communication. A research paper will be required for this course.

AP Literature & Composition Grade 12

CAP40A/B Credit: 1

This rigorous course is intended to prepare students to take the AP Literature and Composition exam. AP Literature and Composition course engages students in the careful reading and critical analysis of imaginative literature. Through close reading of selected texts, students deepen their understanding of the ways writers use language to provide both meaning and pleasure for their readers. As they read, students consider a works structure, style, and themes as well as such smaller scale elements as use of figurative language, imagery, symbolism, and tone. Student writings include impromptu essays, extended essays, and reader responses with an emphasis on literary analysis.

Creative Writing I Grades 9-12

CAG61 Credit: .5

This introductory course offers student writers the opportunity to create written ideas in a number of different areas. Types of work created throughout the semester vary from poetry to short stories. Student writers receive instructor and peer feedback while expressing individual creative thoughts.

Creative Writing II Grades 9-12

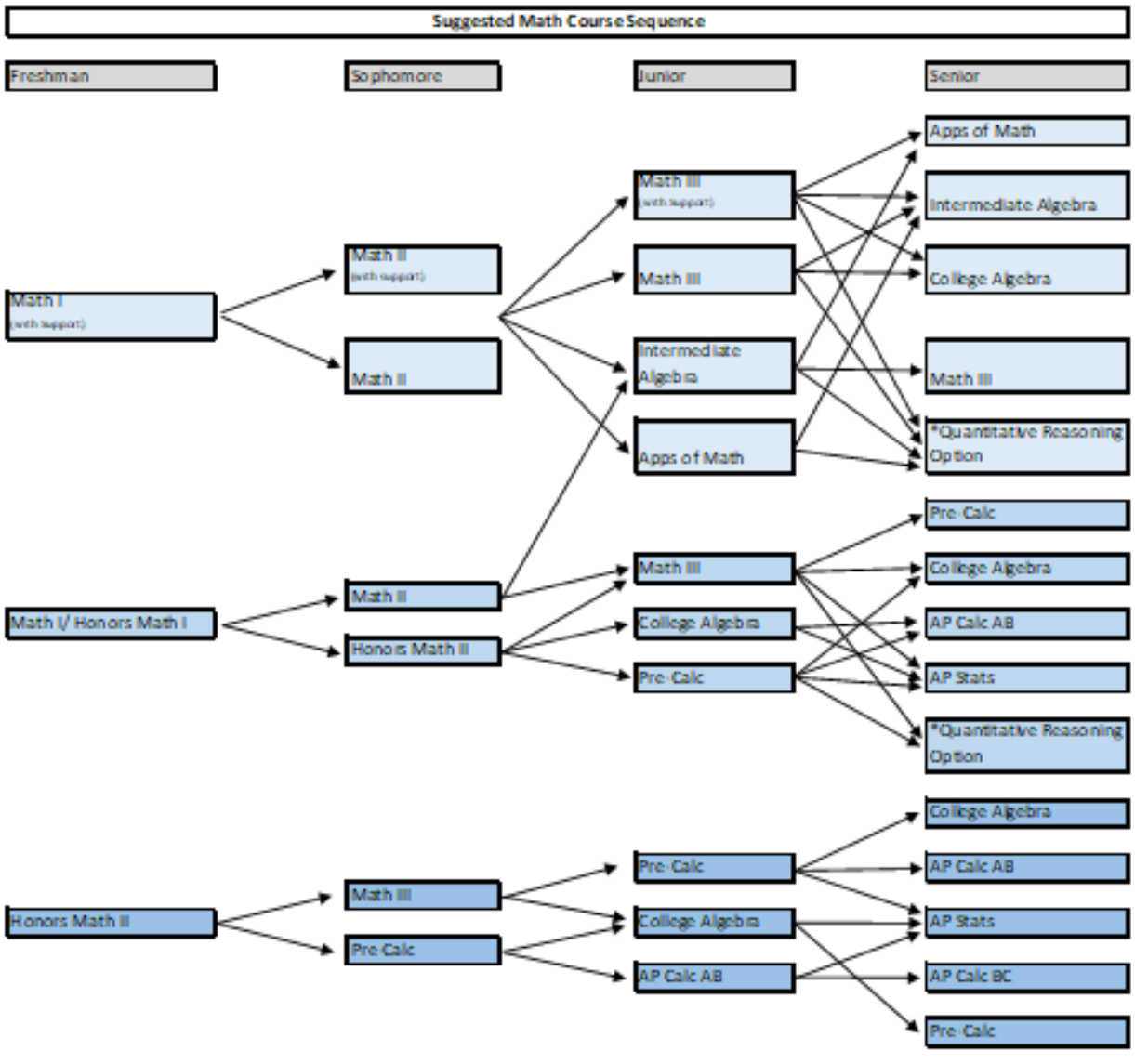
CAG62 Prerequisite: Creative Writing I Credit: .5

This course expands upon the skills learning in Creative Writing. Topics will include genre writing, play writing, and advanced composition of poetry and short fiction. Student writers receive feedback from peers and the instructor while learning to improve their creative writing through the revision process.

Sports Literature MVHS ONLY Grades 9-12

CAG60 Credit: .5

This course focuses on exploring universal themes found in the literature of sports such as gender equity, adversity, perseverance, determination, defeat, integrity, and values. Students will be required to respond to literature as well as to films and music studied in class connecting themes discussed. The genres of literature read will be poetry, short story, essay, editorial, and novel. Students will write within the following areas: editorial, persuasive, and narrative.



Math Graduation Credit – Quantitative Reasoning Option (Seniors, only)

The current district requirement is that USD 232 high school students earn four credits of math for graduation.

If a student successfully completes Integrated Math III, or an equivalent-leveled course, by the conclusion of Grade 11, the student, as a senior, may substitute one unit of Mathematics with one unit of "Quantitative Reasoning" taken during their senior year if it aligns with the student's Individual Plan of Study.

An application for this is available upon request from Student Services.

Courses that can be recognized as "Quantitative Reasoning" are listed in the following table:

Technology	Electives	Science
Research and Design in Building Trades (MV)	Biomedical Innovation (CT)	AP Biology
Architectural Design	Residential Carpentry I	Chemistry
Interior Architectural Design	Residential Carpentry II	AP Chemistry
Research and Design for Pre-Construction	Woodworking	Physical Science
Accounting	Drafting/CAD	Physics
Advanced Accounting	Introduction to Welding (CT)(.5)	AP Physics I
Investing (MV)(.5)	Production Blueprint Reading (CT)(.5)	AP Physics II
Consumer Education/Personal Finance (.5)	Production Methods I (CT)	AP Physics C (MV)
Computer Integrated Manufacturing (CT)	Production Methods II (CT)	Environmental Resources and Wildlife Science
Principles of Engineering	Research and Design for Manufacturing (CT)	Biotechnical Engineering (CT)
Engineering Design and Development	Music Composition (.5)	Biomedical Innovation (CT)
Digital Electronics (CT)	AP Music Theory	Medical Interventions (CT)
Robotics (CT)	Consumer and Personal Finance (.5)	Intro to Organic Chemistry (MV) (.5)
Robotics Capstone (CT)	EDTEC Classes (Credit varies by program)	
Biotechnical Engineering (CT)	JCCC TEC Classes (Credit varies by program)	
Marketing	KCKCC TEC Classes (Credit varies by program)	
Marketing Applications	Approved Workplace Experience Courses (CTE Pathways)	
AP Computer Science A (CT)		
Cybersecurity (CT)		
EDTEC Classes (Credit varies by program)		
JCCC TEC Classes (Credit varies by program)		
KCKCC TEC Classes (Credit varies by program)		

Mathematics

Course Title	Credit	Weight	KS Regents	College Credit	NCAA	9	10	11	12	Prerequisite
Integrated Math I	1		X		X	X				None
Honors Integrated Math I	1	PW	X		X	X				None
Integrated Math II	1		X		X		X			Integrated Math I OR Honors Integrated Math I
Honors Integrated Math II	1	PW	X		X	X	X			Integrated Math I OR Honors Integrated Math I
Integrated Math III	1		X		X		X	X	X	Integrated Math II OR Honors Integrated Math II
Pre-Calculus	1	FW	X	X	X		X	X	X	Honors Integrated Math II OR Integrated Math III
AP Calculus AB	1	FW	X	X	X			X	X	Pre-Calculus
AP Calculus BC	1	FW	X	X	X				X	AP Calculus AB
AP Statistics	1	FW	X	X	X				X	Integrated Math III OR Pre-Calculus
College Algebra	1	FW	X	X	X			X	X	Integrated Math III, Honors Integrated Math II or Pre-Calc
Intermediate Algebra	1		X					X	X	Integrated Math III and/or teacher placement
Applications of Math	1							X	X	Teacher placement

Integrated Mathematics I Grade 9

MAG10A/B Credit:1

The fundamental purpose of Integrated Math I is to build on algebra concepts. Students will expand on skills they learned in Middle School to increase their algebra knowledge to form a strong algebra foundation. Basic concepts of statistics and geometry are also introduced. Topics include: function families, solving complex equations, transformations of functions and graphs, graphing and solving linear functions, inequalities, and absolute value functions, systems of equations and inequalities, simplifying radicals and applying to geometry, basic concepts involving circles, basic statistics concepts and graphs/charts, exponent rules, and introduction to factoring. Students focusing on these concepts while also learning, reading, and applying information from their graphing calculator.

Integrated Mathematics II Grade 10

MAG11A/B Credit:1

The focus of Integrated Math II is on quadratic expressions, equations and functions. Students will compare quadratic characteristics and behaviors to those of linear relationships from Integrated Math I. First semester students will explore the basics of geometry including terminology, angle relationships, similarity and congruence of polygons, right triangle trigonometry and properties and theorems of triangles, quadrilaterals, and circles. Second semester, students will focus is on quadratic expressions, equations, and functions and applications of these concepts to physics. Extension of the set of rational numbers to real and complex numbers are introduced for the solving of quadratic equations.

Honors Integrated Mathematics I Grade 9

MAH10A/B Credit:1

The intent of the honors curriculum is to prepare students to take Advanced Placement and dual-credit courses. Students who enroll in honors courses are expected to take the subsequent honors classes. Honors Integrated Math I students cover all of the Integrated Math I concepts at a deeper level of understanding and/or complexity, and they cover some additional content such as: exponential functions, exponential regression, geometric sequences and matrices. The pace is slightly faster and additional content is covered in most units.

Honors Integrated Mathematics II Grades 9-10

MAH11A/B Credit:1

Prerequisite: Integrated Math I or Honors Integrated Math I

The intent of the honors curriculum is to prepare students to take the Advanced Placement and dual-credit courses. Students who enroll in honors courses are expected to take the subsequent honors classes. Honors Integrated Math II students cover all of the Integrated Math II concepts at a deeper level of understanding and complexity. Additional content is covered including concepts such as higher degree polynomials, rational equations and expressions, and matrices.

Integrated Mathematics III Grades 10-12

MAG12A/B Credit:1

Prerequisite: Integrated Math II or Honors Integrated Math II
Integrated Mathematics III provides students an opportunity to pull together and apply the accumulation of learning that they have gained from previous courses. Content in this course is grouped into four critical areas, organized into units. They apply methods from probability and statistics to draw inferences and conclusions from data. Students expand their repertoire of functions to include polynomial, rational, and radical functions. Students expand their study of right triangle trigonometry to include general triangles. And, finally, students bring together all of their experience with functions and geometry to create models and solve contextual problems. The Mathematical Practice Standards apply throughout each course and, together with the content standards, prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations.

Intermediate Algebra Grade 11-12

MAG04A/B Credit:1

Prerequisite: Integrated Math III and/or teacher placement
In this course, students continue to develop and strengthen their foundational algebra skills to prepare for College Algebra. This course focuses on arithmetic and algebraic manipulation, equations and inequalities, and analysis of equations and graphs. Students will simplify arithmetic and algebraic expressions including those containing rational expressions, rational exponents, radicals and complex numbers. Students will solve equations and inequalities including linear, quadratic, quadratic in form, and those containing rational expressions, radicals or absolute value. In addition, students will graph linear equations and inequalities and analyze functions and non-functions.

Applications of Math Grade 12

MAG62A/B Credit: 1

Prerequisite: Teacher placement
Technical Math extends students' proficiency in mathematics, and apply these skills to technical and/or industrial situations and problems. Technical Math topics include rational numbers, systems of measurements, tolerances, numerical languages, geometry, algebra, statistics, and using tables, graphs, charts, and other data displays. Technology is integrated as appropriate.

AP Statistics Grade 12

MAP40A/B Credit: 1

Prerequisite: Integrated Math III, Pre-Calculus, College Algebra
This rigorous course is intended to prepare students for the AP Statistics exam. AP Statistics includes collecting, analyzing, and drawing conclusions from data. The student will describe data patterns and departure from patterns, use sampling and experimentation to plan and conduct studies, explore random phenomena using probability and simulations, estimate population parameters and test hypotheses. TI-84 calculator required.

Pre-Calculus Grades 10-12

MAG30A/B Credit:1

Prerequisite: Honors Integrated Math II or Integrated Math III
Topics in this course will include a more in depth look at quadratic and polynomial equations with real and complex solutions, exponential and logarithmic equations and functions, and trigonometric functions rational expressions. Other topics include transformations, probability including permutations and combinations, sequences and series, limits, vectors, conics, and trigonometry through advanced trigonometric identities.

AP Calculus AB Grades 11-12

MAP30A/B Credit:1

Prerequisite: Pre-Calculus
This rigorous course is intended to prepare students for the AP Calculus exam. AP Calculus is primarily concerned with developing the students' understanding of the concepts of calculus and providing experience with its methods and applications. This course emphasizes a multi-representational approach to calculus, with concepts, results and problems being expressed graphically, numerically, analytically and verbally.

AP Calculus BC Grade 12

MAP31A/B Credit:1

Prerequisite: AP Calculus AB
This rigorous course is intended to prepare students for the AP Calculus exam. AP Calculus BC is primarily concerned with extending the student's ability to solve integrals, apply integration to more advanced problems and to employ numerical techniques when The Fundamental Theorem of Calculus cannot be applied. This course emphasizes a multi-representational approach to calculus, with concepts, results and problems being expressed graphically, numerically, analytically and verbally.

College Algebra Grades 11-12

MAG20A/B Credit: 1

Prerequisite: Integrated Math III, HIMII, PreCalc
This course focuses on the study of functions and their graphs, techniques of solving equations and the recognition and creation of patterns. Students will analyze and graph basic algebraic relations and exponential and logarithmic functions; solve equations and inequalities, including polynomial equations, exponential equations, logarithmic equations, systems of linear equations and systems of linear inequalities; and analyze and create algebraic and numerical patterns.

Science

Course Title	Credit	Weight	KS Regents	College Credit	NCAA	9	10	11	12	Prerequisite
Biology	1		X		X	X				None
Honors Biology	1	PW	X		X	X				None
AP Biology	1	FW	X	X (MVHS)	X			X	X	Biology and Chemistry
Applied Biochemistry (CTEC)	1		X					X	X	Biology and Chemistry or Concurrent Enrollment
Chemistry	1		X		X		X	X	X	Biology and concurrent enrollment in Math II
Honors Chemistry	1	PW	X		X		X	X	X	Biology or concurrent enrollment in Integrated Math II
AP Chemistry	1	FW	X	X (MVHS)	X			X	X	Honors Chemistry
Introduction to Organic Chemistry	.5		X		X			X	X	AP Chemistry
Physical Science	1		X		X		X	X	X	None
Environmental Science	0.5		X		X		X	X	X	Biology
AP Environmental Science	1	FW	X		X			X	X	None
Plants & the Environment	0.5		X		X		X	X	X	Biology
Kansas Natural History	1		X		X			X	X	Biology
Marine Science	1		X		X		X	X	X	Biology
Zoology	1		X		X		X	X	X	Biology
***Environmental Resources & Wildlife Science**	1		X		X			X	X	Chemistry
***Biochemistry Workplace Experience**	1		X		X			X	X	Application Only
Medical Interventions	1		X		X			X	X	Chemistry
***Biotechnical Engineering**	1		X		X			X	X	Biology and Chemistry or Concurrent Enrollment
***Biomedical Innovation**	1		X		X			X	X	Medical Interventions
***Biomedical Research/Workplace Experience**	1		X		X			X	X	Application Only
Human Anatomy & Physiology	1		X	X (MVHS)	X			X	X	Biology & Chemistry
Physics	1		X		X		X	X	X	Biology/Integrated Math II
AP Physics 1	1	FW	X	X (MVHS)	X			X	X	Integrated Math III or concurrent enrollment
AP Physics 2	1	FW	X	X (MVHS)	X			X	X	Pre-Calculus, AP Physics 1
AP Physics C: Mechanics	.5	FW	X		X			X	X	AP Physics 1, AP Physics 2, AP Calculus AB (concurrent enrollment)
AP Physics C: Electricity and Magnetism	.5	FW	X		X			X	X	AP Physics 1, AP Physics 2, AP Calculus AB (concurrent enrollment)

*Application Level CTE Course

Biology Grade 9

SCG10A/B Fee $10 Per Year Credit: 1

Biology is the study of living things and how they interact with their environment. This introductory course is designed for students who desire an overview of biology. Laboratory experiences include microscopic work, technology applications and basic laboratory skills.

Honors Biology Grade 9

SCH10A/B Fee $10 Per Year Credit: 1

This rigorous course is intended to introduce and prepare students for Advanced Placement courses and exams. This course is designed for students who desire a comprehensive survey of Biology, the study of living things and how they interact with their environment. The class is designed to provide students with a solid foundation needed for success in future life science courses. Laboratory experiences include microscopic work, technology applications, dissection and basic laboratory skills.

AP Biology Grades 11-12

SCP10A/B Fee $10 Per Year Credit: 1

Prerequisite: Biology and Chemistry

This rigorous course is intended to prepare students for the AP Biology exam. This course will provide students with the conceptual framework, factual knowledge and analytical skills necessary to deal critically with the rapidly changing science of Biology. The goals of the course are to help students develop a conceptual framework for modern Biology and gain an appreciation of science as a process through lab experiences.

Honors Chemistry Grades 10-12

SCH20A/B Fee $10 Per Year Credit: 1

This rigorous course is intended to introduce and prepare students for Advanced Placement courses and exams. The class is designed to provide students with a solid foundation in chemical knowledge and principles needed for success in college chemistry. Topics covered include atomic structure, periodic properties of elements, chemical bonding, molecular structure, chemical equations, stoichiometry, gas laws, and acid/base chemistry. This course covers more topics, in greater depth, than chemistry. Lab work is more involved, and independent learning are emphasized.

Physical Science Grades 10-12

SCG00A/B Fee $10 Per Year Credit: 1

Physical Science is a laboratory-based class that introduces basic chemistry and physics principles and allows the student to apply those principles to their environment. Classroom activities serve as a basis for developing math, science and inquiry skills needed for further study in science. The student will become familiar with laboratory equipment, techniques and procedures, as well as gathering and interpreting data. This course is not intended for students who have successfully completed Chemistry.

AP Environmental Science Grade 11-12

SCP50A/B Fee $10 Per Year Credit: 1

Prerequisite: Biology

Equivalent to a one semester, introductory college course in environmental science, through which students engage with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world. Environmental Science is interdisciplinary, embracing topics from geology, biology, environmental studies, environmental science, chemistry and geography.

Introduction to Organic Chemistry MVHS ONLY Grades 11-12

SCG21 Fee $5 Per Semester Credit: .5

Prerequisite: AP Chemistry

This course is a one-semester introduction to organic chemistry designed to be taken after successful completion of AP Chemistry. It focuses on structure and bonding, reaction mechanisms, stereochemistry, and chemical reactivity. Many of the major classes of organic compounds will be covered including but not limited to alkanes, alkenes, alkyl halides, and alcohols. Students who are successful in this course are well prepared for more advanced organic chemistry classes taken in college.

Marine Science MVHS ONLY Grades 10-12

SCG15A/B Fee $10 Per Year Credit: 1

Prerequisite: Biology

This course is designed to enlighten students as to the potential they may hold for a career in Marine Science. Emphasis will be placed upon the physical aspects of the oceans, as well as the living. The marine inhabitants will be studied at great length. Course content will include physical characteristics of the ocean, human impact and an overview of the marine inhabitants. Students will conduct and present several small research projects and conclude with a larger, in-depth project on a topic of their choice.

Chemistry Grades 10-12

SCG20A/B Fee $10 Per Year Credit: 1

Prerequisite: Biology and concurrent enrollment in Integrated Math II
(Not recommended for students taking Integrated Math II Support)

The class is designed to provide students with a solid foundation in chemical knowledge and principles needed for success in college chemistry. Topics covered include atomic structure, periodic properties of elements, chemical bonding, molecular structure, chemical equations, stoichiometry, gas laws, and acid/base chemistry.

AP Chemistry Grades 11-12

SCP20A/B Fee $10 Per Year Credit: 1

Prerequisite: Honors Chemistry

This rigorous course is intended to prepare students for the AP Chemistry Exam. AP Chemistry topics covered include atomic theory and structure and chemical bonding, kinetics, equilibrium, and thermodynamics. AP Chemistry labs are equivalent to those typically found in college level chemistry courses. The class is designed to provide students with a solid foundation in chemical knowledge and principles.

Environmental Science MVHS ONLY Grades 10-12

SCG50 Fee $5 Per Semester Credit: .5

Prerequisite: Biology

This introductory course will provide an overview of environmental science with emphasis on ecology, populations, and human impact on the environment. Students will explore the interactions between organisms and their environment through projects and activities indoors and outdoors, as well as through in class work. Students will be required to participate in outdoor activities.

Plants and the Environment MVHS ONLY Grades 10-12

SCG12 Fee $5 Per Semester Credit: .5

Prerequisite: Biology

This course is designed as a field and lab course where students will gain knowledge of the niche that plants fill in the natural balance of the biological spectrum. Course content deals with plant anatomy, identification, classification, and propagation. In addition, students will explore the relationship plants have with insects as well as an introduction into weather (time permitting). There will be two large projects consisting of an insect collection and leaf collection to provide a better opportunity to study and learn these topics in detail. Students will be required to participate in outdoor activities which include handling of insects.

Kansas Natural History DHS ONLY Grades 11-12

SCG51A/B Fee $10 Per Year Credit: 1

Prerequisite: Biology

This is a field course that should attract students who desire to gain a better appreciation for the plants and animals native to the area in which we live. Included in the curriculum are studies of both terrestrial and aquatic habitats, identification of various groups of organisms and population survey.

Zoology MVHS ONLY Grades 10-12

SCG13A/B Fee $10 Per Year Credit: 1

Prerequisite: Biology

Zoology offers curricular diversity to students. This course includes selected topics in animal biology such as taxonomy and evolution, animal physiology, and ecology. Laboratory research skills are developed in the classroom and outdoors.

Environmental Resources & Wildlife Science Grades 11-12

SCG14A/B Fee $10 Per Year Credit: 1

Prerequisite: Chemistry

This is an advanced level course that builds on Environmental Science and other life science classes. It is an application level course that is part of the Kansas CTE Biochemistry pathway. This course will provide strong emphasis on field and classroom research, laboratory investigations, and real-life application in the field of environmental science through partnerships with outside businesses. Students will gain a solid foundation for pursuit of a potential career in a field related to environmental science. Potential topics include: sustainability, conservation, ecology, soils, water resources, fisheries, plants, forestry, wildlife, air quality, waste, energy, and environmental careers. This course is ideal for students who are passionate about the environment and wishing to continue their education in one of the many fields of environmental science.

Biochemistry Workplace Experience (CTEC) Grades 11-12

CTG73A/B Credit: 1

This workplace experience course is a Career & Technical Education (CTE) elective course, which can be one or two semesters depending on the length of the internship. Students will
seek out this internship, which might combine onsite experiences with in-class experiences and provide students with the opportunity to work on client-based projects. Students will participate in a minimum of 30 hours of work-related experiences per semester.

Biotechnical Engineering (CTEC) Grades 11-12

CTG71A/B Credit: 1

Prerequisite: Chemistry

Biotechnical Engineering enables students to develop and expand their knowledge and skills in biology, physics, technology and mathematics. Course content draws upon diverse fields such as biomedical engineering, bimolecular genetics, bioprocess engineering, or environmental engineering. Students may engage in project-based learning and problems related to biomechanics, cardiovascular engineering, genetic engineering, tissue engineering, biomedical devices, human interfaces, bioprocesses, forensics, and bioethics.

Biomedical Innovation (CTEC) Grades 11-12

CTG74A/B Fee $10 Per Year Credit: 1

In this research course, students will apply their knowledge and skills to answer questions or solve problems related to the biosciences. Students design innovative solutions for the health challenges of the 21st century (such as the cure for Cancer, etc.) by addressing topics such as clinical medicine, biochemistry, physiology, biomedical engineering, and/or public health. They may have the opportunity to work on an independent project and may work with a mentor or advisor from industry.

Biomedical Research/Workplace Experience (CTEC) Grades 11-12

CTG76A/B Credit: 1

Advanced level application course that incorporates experienced based learning including client-based projects or Internships supported by classroom research within their area of interest/study.

Human Anatomy/Physiology Grades 11-12

SCG40A/B Fee $10 Per Year Credit: 1

This course involves a study into the structure and function of the human body. Eleven body systems will be investigated through a problem based learning approach. Major emphasis will be placed on learning how these systems work.

Physics Grades 10-12

SCG30A/B Fee $10 Per Year Credit: 1

Prerequisite: Biology and Integrated Math II

This class is designed to provide students with a solid foundation in the knowledge and principles of physics. It is a valuable preparation for college physics. Topics covered include motion in one and two dimensions, forces, vectors, momentum, gravitation, work and energy changes, waves, sounds light and optics, electricity and electromagnetism.

AP Physics 1 Grades 11-12

SCP30A/B Fee $10 Per Year Credit: 1

Prerequisite: Integrated Math III or concurrent enrollment

AP Physics 1 is an algebra-based, introductory college-level physics course. Students cultivate their understanding of Physics through inquiry-based investigations as they explore topics such as Newtonian mechanics (including rotational motion); work, energy, and power; mechanical waves and sound; and introductory, simple circuits.

AP Physics 2 Grades 11-12

SCP31A/B Fee $10 Per Year Credit: 1

Prerequisite: AP Physics 1 and Pre-Calculus/Integrated Math III

AP Physics II is an algebra-based, introductory college-level physics course. Students cultivate their understanding of Physics through inquiry-based investigations as they explore topics such as fluid statics and dynamics; thermodynamics with kinetic theory; PV diagrams and probability; electrostatics; electrical circuits with capacitors; magnetic fields; electromagnetism; physical and geometric optics; and quantum, atomic, and nuclear physics.

AP Physics C: Mechanics MVHS ONLY Grades 11-12

SCP34 Fee $5 Semester Credit: .5

AP Physics C: Mechanics is equivalent to a one-semester, calculus-based, college-level physics course, especially appropriate for students planning to specialize or major in physical science or engineering. The course explores topics such as kinematics; Newton's laws of motion; work; energy and power; systems of particles and linear momentum; circular motion and rotation; and oscillations and gravitation. Introductory differential and integral calculus are used throughout this course.

Medical Interventions CTEC ONLY Grades 11-12

Students investigate how to prevent, diagnose, and treat disease. Students explore how to detect and fight infection; screen and evaluate the code in human DNA; evaluate cancer treatment options; and prevail when the organs of the body begin to fail. Through real-world cases, students are exposed to a range of interventions related to immunology, surgery, genetics, pharmacology, medical devices, and diagnostics.

AP Physics C: Electricity and Magnetism MVHS ONLY Grades 11-12

SCP52 Fee $5 Semester Credit: .5

AP Physics C: Electricity and Magnetism is a one-semester, calculus-based, college-level physics course, especially appropriate for students planning to specialize or major in physical science or engineering. The course explores topics such as electrostatics; conductors, capacitors, and dielectrics; electric circuits; magnetic fields; and electromagnetism. Introductory differential and integral calculus are used throughout this course.

Social Science										
Course Title	**Credit**	**Weight**	**KS Regents**	**College Credit**	**NCAA**	**9**	**10**	**11**	**12**	**Prerequisite**
World Geography	0.5		X		X	X				None
Honors World Geography	0.5	PW	X		X	X				None
Civics	0.5		X		X	X				None
Honors Civics	0.5	PW	X		X	X				None
World History	1		X		X		X			None
AP European History	1	FW	X		X		X			None
US History	1		X		X			X		None
AP US History	1	FW	X	X-MVHS	X			X		None
AP US Government & Politics	0.5	FW	X	X-MVHS	X				X	None
Political Participation	0.5		X		X				X	None
Constitutional Law	0.5		X		X				X	None
Current Social Issues	0.5		X		X		X	X	X	None
Psychology	0.5		X		X		X	X	X	None
AP Psychology	1	FW	X		X			X	X	None
Archeology & Artifacts	0.5		X		X			X	X	None
Archeology Research & Restoration	0.5		X		X			X	X	Archeology & Artifacts
Sociology of Community Service	0.5								X	Application

World Geography Grade 9

SSG70 Credit: .5

Students will examine different regions and cultures of the world while developing skills critical to success in secondary social studies, such as historical thinking, analyzing primary sources, interpreting maps and graphs, evaluating evidence to draw conclusions, and organizing the components of an argument.

Civics Grade 9

SSG34 Credit: .5

Students will examine the historical development of governance, with an emphasis on evaluating the functions, structure, and cultural impact of government in the United States. The development of skills critical to success in secondary social studies, such as historical thinking, analyzing primary sources, interpreting maps and graphs, evaluating evidence to draw conclusions, and organizing the components of an argument will be emphasized.

Honors World Geography Grade 9

SSH71 Credit: .5

This rigorous course is intended to introduce and prepare students for Advanced Placement courses and exams. Students will examine different regions and cultures of the world while developing skills critical to success to secondary social studies, such as analyzing primary sources, interpreting maps and graphs, evaluating evidence to draw conclusions, and organizing the components of an argument. Recommended for students with strong study skills and capable of independent learning.

Honors Civics Grade 9

SSH34 Credit: .5

This rigorous course is intended to introduce and prepare students for Advanced Placement courses and exams. Students will examine the historical development of governance, with an emphasis on evaluating the functions, structure, and cultural impact of government in the United States. The development of skills critical to success in secondary social studies, such as analyzing primary sources, interpreting maps and graphs, evaluating evidence to draw conclusions, and organizing the components of an argument will be emphasized. Recommended for students with strong study skills and capable of independent learning.

World History Grade 10

SSG00A/B Credit: 1

With an emphasis on western civilization, students will explore the emergence of the modern world, beginning with the Renaissance era and concluding with the Cold War. Students will be expected to engage in the historical thinking process, analyze primary source documents, evaluate the consequences of past decisions and communicate ideas and arguments related to historical concepts.

AP European History Grade 10

SSP01A/B Credit: 1

This rigorous course is intended to prepare students for the AP European History exam. The study of European History since 1450 introduces students to cultural, economic, political, and social development that played a fundamental role in shaping the world in which we live.

US History Grade 11

SSG30A/B Credit: 1

This course provides a chronological narrative of U.S. History beginning in the late 19th century through the 20th century while exploring major themes that have shaped our modern nation during that period. Students also will develop reading comprehension, critical thinking, and composition skills through student centered activities.

AP US History Grade 11

SSP30A/B Credit: 1

This rigorous course is intended to prepare students for the AP US History exam. In this class students will gain a vast knowledge of U.S. History ranging from precolonial America to the 21st century, emphasizing important social, political, economic and cultural forces that have shaped our nation. Students will learn to assess historical materials and weigh the evidence and interpretations presented in historical scholarship to compose analytical essays.

AP US Government & Politics Grade 12

SSP31 Credit: .5

This rigorous course is intended to prepare students for the AP Government exam. In this college level course students will analyze and evaluate the various components of the United States political system, including the public policy making process. Topics of study include American political culture, constitutional principles, historical origins of the U.S., inter-government relations, political parties, public opinion, interest groups, the role of media in politics, and federal bureaucracy.

Political Participation Grade 12

SSG33 Credit: .5

This senior level course will be divided into two main units of study. The first unit will focus on understanding "political science." Students will explore how political beliefs are formed. They will learn how each unique personal experience shapes values and how these values shape beliefs. Students will evaluate the different values of liberals, conservatives, libertarians, and moderates and how these values will shape each belief on specific topics. The second unit of study will be political application. Students will be completing hands on projects where they evaluate how political science has been applied and can be identified in almost all aspects of life (Music, Film, Literature, TV, News, etc.).

Constitutional Law Grade 12

SSG32 Credit: .5

This course will examine the origins of individual rights guaranteed in the U.S. Constitution and how those rights have changed over time through rulings of the Supreme Court. This course will also serve as an introduction to the study of law as students will learn how to apply legal reasoning to analyze individual cases and evaluate the Court's decisions. Topics of study will include freedom of speech, freedom of religion, the right to bear arms, search and seizure, individual rights in a criminal trial, privacy rights, and due process.

Current Social Issues MVHS Only Grades 10-12

SSG73 Credit: .5

In this elective course, students will analyze issues currently confronting our nation and the world, evaluate multiple action plans to address each issue, and ultimately argue and defend their own positions on each issue. Through structured cooperative learning activities and independent research, students will analyze information from multiple sources and perspectives in print and electronic media. Throughout the course activities, students will develop critical thinking as well as written and oral communication skills.

Psychology Grades 10-12

SSG50 Credit: .5

An introductory survey course based on exploring and analyzing human behavior and cognition. Topics of study include psychological perspectives, research methods, biological bases of behavior, principles of learning, human development, personality theories, and social psychology.

AP Psychology Grades 11-12

SSP50A/B Credit: 1

This rigorous course is intended to prepare students for the AP Psychology exam. This college level course introduces students to the systematic and scientific study of the behavior and cognition of human beings, exposes students to each major subfield within psychology, and enables students to examine the methods psychologists use in their science and practice.

Archeology Research & Restoration (MVHS Only) Grades 11-12

SSI74 Credit: .5

Prerequisite: Archeology & Artifacts

This course is designed for students who have successfully completed Archeology & Artifacts course. It is intended to meet the needs of students who wish to do more historical research and work with in-depth Museum and Archeology Projects.

Archeology & Artifacts (MVHS Only) Grades 11-12

SSI73 Credit: .5

Archeology & Artifacts is a course for students seeking an unusual history and research opportunity combined with hands on learning experience. Students will be expected to meet advanced and rigorous standards in the areas of research, writing, speaking, and analysis. Completion of this course will require two student-chosen research projects on specific artifacts and time periods of interest.

Sociology of Community Service MVHS Only Grade 12

SSG60A(fall) SSG701 (spring) Credit: .5

Prerequisite: Application

Using a sociological perspective, students will examine various social issues such as gender roles, aging, race and ethnic relations, family and marriage and institutional reforms. Students will focus on how these issues affect society today and their impact for the future. Students will apply this knowledge through various community service activities throughout the area while studying these issues.

Physical Education/Health						
Course Title	**Credit**	**9**	**10**	**11**	**12**	**Prerequisite**
Girls Physical Education	1	X				None
Boys Physical Education	1	X				None
Health	0.5		X			None
Team Sports	0.5		X	X	X	Physical Education
Lifetime Sports	0.5		X	X	X	Physical Education
Strength & Conditioning	0.5	X	X	X	X	None
Advanced Strength & Conditioning	0.5		X	X	X	Strength & Conditioning
Cardio Fitness	0.5		X	X	X	Physical Education
Dance	1	X	X	X	X	Audition

***Students may enroll in a maximum of two P.E. courses per semester**

Boys/Girls Physical Education Grade 9

PEG10A/B PEG11A/B Fee for CPR Credit: 1

This activity class is directed toward core skills and strategies in team and dual sports, with an emphasis on proficiency in personal fitness. Examples of areas covered are flag football, volleyball, soccer, basketball, softball, badminton, tennis, weight training, jogging, fitness evaluation, and CPR certification. During physical education classes, all freshman students participate in an online alcohol prevention program, AlcoholEdu® for High School. Developed by prevention experts at EverFi, this interactive course delivers a science-based, interactive prevention experience about alcohol and focuses on healthy decision-making strategies for youth. This course is required for graduation and is the prerequisite for all of the electives in PE.

Strength & Conditioning Grades 9-12

PEG30A (fall) PEG 30B (spring) Credit: .5

This class consists of physical conditioning and an introduction to weight training with an emphasis on lifting techniques and safety guidelines in the weight room. Fitness tests will be utilized throughout the school year emphasizing agility, muscular and cardiovascular endurance, strength, power, and flexibility. This class should only be taken by students who are self-motivated and wish to strive for a high level of fitness.

Health Grade 9

PEG50 Credit: .5

This class will cover concepts related to health promotion and disease prevention so that students are able to make appropriate life style choices. Health units covered are: nutrition; prevention and control of disease; injury prevention and safety; personal health; mental and emotional health; substance use, misuse, abuse, and addiction; environmental health; family life and sexuality; consumer health; and community health.

Team Sports Grades 10-12

PEG20 Credit: .5

Prerequisite: Boys/Girls Physical Education

This is a more competitive class designed to increase a student's physical fitness level and athletic skill through the following activities: flag football, soccer, softball, volleyball, team handball, basketball and other indoor and outdoor team sports. The class will consist of daily conditioning and team activities.

Lifetime Sports Grades 10-12

PEG13 Fee: $20 Credit: .5

Prerequisite: Boys/Girls Physical Education

This less-competitive class is designed to provide an opportunity for students to participate in a variety of activities that will enable them to lead active and healthy lives. Activities include: Jogging, disc golf, golf, archery, badminton, pickle ball, aerobics, bowling, social dance, softball, volleyball, tennis, and other indoor and outdoor games.

Advanced Strength & Conditioning Grades 10-12

PEG31A (fall) PEG 31B(spring) Credit: .5

Prerequisite: Strength & Conditioning

This course is extremely high in intensity and is designed to meet the needs of highly motivated students. Areas of physical fitness that will be stressed include: Muscular Strength, Core Strength, Flexibility, Endurance, Cardiovascular Endurance, and Body Composition. Instruction will focus on strength, flexibility and aerobic conditioning. This course will include stretching, lifting, sprinting, jogging, plyometric, anaerobic conditioning and aerobic conditioning.

Cardio Fitness Grades 10-12

PEG32 Credit: .5

Prerequisite: Boys/Girls Physical Education

This class provides opportunities for students to attain a healthy level of physical fitness. The class will stress health related fitness components and utilize equipment to benefit cardiovascular, strength, and flexibility. Supplemental activities may include cycling, yoga, Pilates, and dumb bell workouts.

Dance (MVHS Only) Grades 9-12

PEG21A/B Credit: 1

Prerequisite: Audition

Dance team is designed to teach and develop several types of dance techniques, music interpretation and choreography skills. Performances during the fall season include pep assemblies, home football games and local competitions. Winter and spring seasons include pep assemblies, home basketball games, dance competitions, and other special events. A spring show is scheduled as a finale for the year. Additional practices may be scheduled, as needed. One audition for the dance team is held in the spring for the following year. This course will also provide an opportunity to compete in regional and national competitions.

Art						
Course Title	**Credit**	**9**	**10**	**11**	**12**	**Prerequisite**
Art I	0.5	X	X	X	X	None
Art II	0.5	X	X	X	X	Art I
Survey of Fine Crafts	0.5	X	X	X	X	None
Drawing	0.5	X	X	X	X	Art I
Painting	0.5		X	X	X	Drawing
Ceramics	0.5	X	X	X	X	Art I
Sculpture	0.5	X	X	X	X	Art I
Advanced Sculpture	0.5		X	X	X	Sculpture
Advanced Ceramics	0.5		X	X	X	Ceramics
Advanced Drawing	0.5		X	X	X	Drawing
Advanced Painting	0.5		X	X	X	Painting
AP Art & Design	1		X	X	X	Drawing and Painting (MVHS) Art II (DHS)
Graphic Design Fundamentals	.5	X	X	X		None
Principles of Illustration	.5			X	X	None
Graphic Design	1		X	X	X	Graphic Design Fundamentals
***Graphic Design Workplace Experience**	1			X	X	Graphic Design
*Application Level CTE Course						

Art I Grades 9-12

ARG10 Fee: $20 Per Semester Credit: .5

This introductory art course covers: Art Production, Aesthetics, Art Criticism, & Art History. An emphasis will be placed on learning and applying the Elements & Principles of art in order to create a vocabulary that allows for the creation of, connections with, and an understanding of the arts.

Art II DHS Only Grades 9-12

ARG11 Fee: $20 Per Semester Credit: .5

Prerequisite: Art I

This course serves to enhance the student's creative experience in art production, aesthetics, art criticism, and art history. An emphasis will be placed on learning and applying the elements and principles of art in order to create a vocabulary that allows for the recreation of, connections with, and an understanding of the arts.

Survey of Fine Crafts MVHS Only Grades 9-12

ARG50 Fee: $20 Per Semester Credit: .5

Students will explore and develop skills required for producing artisan crafts. Students will develop problem solving skills as they communicate with the world around them through various media including: jewelry making, batik, basketry, enameling, glass fusing, fiber techniques, wood carving, wood burning, mosaics, and duct tape.

Drawing Grades 9-12

ARG12 Fee: $20 Per Semester Credit: .5

Prerequisite: Art I

Students will be introduced to “Drawing on the Right Side of the Brain” by Betty Edwards which will strengthen their drawing ability. Students will view and discuss the works of the great masters from art history as well as explore a variety of media, styles, and subjects as they create several original drawings.

Painting Grades 10-12

ARG20 Fee: $20 Per Semester Credit: .5

Prerequisite: Drawing

This course introduces the novice and advanced painter alike to the essential concepts and techniques of painting. There will be an emphasis on perceptual work including still life, nature elements, and self-portrait. We will explore the ability to create space through expressive, symbolic and descriptive techniques. Topics covered include color mixing, paint application, and styles of painting.

Ceramics MVHS Only Grades 9-12

ARG40 Fee: $20 Per Semester Credit: .5

Prerequisite: Art I

This course covers the production and history of both functional and non-functional ceramic ware. Students will learn hand-building methods, including pinch, slab, coil, and extruded forms. The elements of art and principles of design are stressed as they apply to form and surface decoration.

Sculpture Grades 9-12

ARG30 Fee: $20 Per Semester Credit: .5

Prerequisite: Art I

This course provides a three dimensional approach to problem-solving through a variety of media and materials, such as paper, ply board, clay, plaster, wood, wire, metal, and stone. Techniques learned include modeling, carving, assemblage, and casting. The history of sculpture is covered as well.

Advanced Sculpture Grades 10-12

ARG31 Fee: $20 Per Semester Credit: .5

Prerequisite: Sculpture

This course is a continuation of Sculpture I. More complex technical processes are emphasized. Assignments stress independent aesthetic problem-solving and allow opportunities for unlimited personal and creative decision making.

Advanced Drawing Grades 10-12

ARG13 Fee: $20 Per Semester Credit: .5

Prerequisite: Drawing

Students will continue to strengthen their drawing skills with strong emphasis on observational drawing, figure drawing, and drawing from the imagination. Conceptual and compositional skills will be stressed as students explore and master a variety of media. Students will develop their own final unit of study for this advanced class.

Advanced Ceramics MVHS Only Grades 9-12

ARG41 Fee: $20 Per Semester Credit: .5

Prerequisite: Ceramics

This course is a continuation of clay methods in Ceramics I and will introduce students to the potter’s wheel. Emphasis is placed on research and experimentation in clay and glazes. Assignments provide opportunity for unlimited personal and creative decision making and will allow students to excel in the medium.

Advanced Painting Grades 10-12

ARG21 Fee: $20 Per Semester Credit: .5

Prerequisite: Painting

Advanced Painting is an advanced course that provides students with a sequence of conceptual painting problems based upon past and contemporary artistic practices. Through studio projects that engage broad topics in painting, students will begin to define their own personal interests and develop their own style and voice. This course leads students to develop a greater level of conceptual knowledge and technical skill, which prepares them for the self-generated problems in AP Art. Studio projects will be augmented by critical readings, art slides and visits to contemporary art exhibitions.

AP Art & Design Grades 10-12

ARP51A/B Fee: $40 Per Year Credit: 1

Prerequisite: Drawing and Painting-MVHS or Art II-DHS

This rigorous course is intended to prepare students for the AP Art & Design exam. The AP Art & Design is designed for students who are seriously interested in the practical experience of art. Students will develop an art portfolio. The AP Art & Design exam is not based on a written exam; instead, students submit either a 2-D, 3-D, or drawing portfolio at the end of the school year.

Graphic Design MVHS & CTEC Grades 10-12

CTG52A/B Fee: $40 Per Year Credit: 1

Graphic Design will focus on creativity and the design process with an emphasis on creative thinking and problem solving. We will create art products such as compositions, branding and logo design, package design, corporate brochures and advertising. We will learn and incorporate the production processes with our projects and know the differences between spot printing and process printing.

Graphic Design Fundamentals MVHS & CTEC Grades 9-11

CTG04 Fee: $20 Per Semester Credit: .5

Graphic Design Fundamentals is an introduction to design elements and principles in the purposeful arrangement of images and to communicate a message. The focus is on learning typography, composition and visualization in order to create art products such as posters, flyers and other print media.

Principles of Illustration CTEC Grades 11-12

CTG02 Fee: $20 Per Semester Credit: .5

Principles of Illustration explores a variety of media, tools and supports as a means to communicate ideas. Topics include an understanding of illustration as applicable to careers in graphic design, animation, apparel/textile design, industrial design, web design, architecture, interior design and fine arts. Techniques in traditional and digital illustration applications will be explored as directly linked to social trends.

Graphic Design Workplace Experience MVHS & CTEC Grades 11-12

CTG01A/B Fee: $40 Per Year Credit: 1

Prerequisite: Graphic Design

Graphic Design Workplace Experience will take the tools and software that you used in Graphic Design and apply them to “real world” applications. We will meet with clients and gain an understanding of problem solving for real projects considering production processes and client needs. We will develop a digital portfolio of projects to prepare you for submissions to college and to prepare you for job interviews.

Performing Arts: Communications						
Course Title	**Credit**	**9**	**10**	**11**	**12**	**Prerequisite**
Communications	0.5	X	X	X	X	None
Argumentation & Debate Fundamentals	0.5	X	X	X	X	None
Debate	0.5	X	X	X	X	None
Advanced Debate	0.5		X	X	X	Debate
Forensics	0.5	X	X	X	X	None
Advanced Forensics	0.5		X	X	X	Forensics
Drama	0.5	X	X	X	X	None
Advanced Drama	0.5	X	X	X	X	Drama
Stagecraft	0.5		X	X	X	None
Repertory Theatre	1		X	X	X	Audition

Communications Grades 9-12

SDG30 Credit: .5

This course emphasizes communication skills. The course will cover interpersonal and intrapersonal skills and public speaking techniques. Each student will prepare and present speeches.

Debate Grades 9-12

SDG20 Credit: .5

Debate is a first-semester co-curricular competitive speech course that develops advanced communication and critical thinking skills. Students taking debate must have strong reading abilities, the ability to speak quickly, and be comfortable accessing and utilizing shared digital files via a laptop computer. In this course, students will conduct extensive research and prepare arguments for and against a pre-determined resolution. Debate is a co-curricular class and all students enrolled in this course are considered members of their High School’s Competitive Debate Team. Students in debate must participate in at least three public speaking competitions during the semester. These competitions take place at neighboring schools on Fridays and Saturdays outside of class time. Students must meet KSHSAA eligibility requirements for interscholastic competition and represent themselves and the squad in a respectful manner at all times.

Argumentation & Debate Fundamentals (DHS) Grades 9-12

SDG23 Credit: .5

Argumentation and Debate Fundamentals is a semester-long course offered both fall and spring semesters. The purpose of this course is to teach students' fundamentals of argumentation and debate, introduce various types of debate, promote research, critical thinking, and case writing skills, and provide students opportunities to practice and implement skills through inter-squad scrimmage opportunities.

Advanced Debate Grades 10-12

SDG21 Credit: .5

Prerequisite: Debate

Advanced Debate is a first-semester co-curricular speech course that continues the study of argumentation, persuasion, critical thinking and performance of debate started in the prerequisite Debate class. Students enrolled in this co-curricular class are considered members of their High School's Competitive Debate Team and will spend time both in and outside of class conducting research, preparing for and competing in at least four competitions at neighboring schools on Fridays and Saturdays outside of class time. Students enrolled in this course must meet KSHSAA eligibility requirements for interscholastic competition and represent themselves and the squad in a respectful manner at all times.

Forensics Grades 9-12

SDG10 Credit: .5

Forensics is a performance-based class that meets during second semester. Students enrolled in this co-curricular class are considered members of the Forensics Team and will be preparing both in and outside of class to speak, present, and/or perform in a tournament competition. This course covers the fundamentals of forensics which include oral interpretation, humorous interpretation, informative speaking, original oratory, extemporaneous speaking, Lincoln Douglas and Public Forum debate and duet acting. Students will select and perform play cuttings and performance material for at least three Forensics tournaments which are usually scheduled on Saturdays. Students must meet KSHSAA eligibility requirements for interscholastic competition and represent themselves and the squad in a respectful manner at all times.

Advanced Forensics Grades 10-12

SDG11 Credit: .5

Prerequisite: Forensics

Advanced Forensics is a second-semester course that will take the study of Forensics to more advanced levels. This is a co-curricular class designed for those students who have already completed the Forensics prerequisite. Students in this class will contribute competitively in multiple events as well as help create performance files for the squad. Students may choose from events including oral interpretation, humorous interpretation, informative speaking, original oratory, extemporaneous speaking, Lincoln Douglas and Public Forum debate and duet acting. As members of the Forensics Team, students will select and perform play cuttings and performance material for at least four Forensics tournaments which are usually scheduled on Saturdays. Students must meet KSHSAA eligibility requirements for interscholastic competition and represent themselves and the squad in a respectful manner at all times.

Drama Grades 9-12

SDG40 Credit: .5

This course covers basic acting and improvisation skills as well as theatre appreciation. Students are expected to learn basic stage terminology, stage concepts, and fundamental skills used in acting.

Advanced Drama Grades 9-12

SDG42 Credit: .5

Prerequisite: Drama

Advanced drama is for those students who have mastered the basics of presentation and character development and who are ready to apply those skills to more demanding material and more polished performances. Advanced drama will also build on the basic techniques used in acting and increase the skill set to include the technical theatre skills necessary for the production of a play. Students who successfully pass this class will learn various monologue styles and apply techniques that will be useful as they prepare for future auditions. As part of this preparation students will also be introduced to theatre history and the various styles of theatre performance that have been prevalent in different periods. The final project of this class will be the staging of a play with all of the technical aspects performed and designed by the students.

Stagecraft Grades 10-12

SDG43 Credit: .5

Stagecraft allows students to develop skills in designing and constructing theatrical related scenery. This course will help to develop student skills and understanding of planning and building structures used in theatre sets.

Repertory Theatre Grades 10-12

SDG41A/B Credit: 1

Prerequisite: Audition

This class is by audition only for students in grades 10-12. This is a performance-centered course of study, which will enhance the theater arts education of the total theater student. Students will advance their knowledge of acting techniques, directing skills, scene study, analysis of dramatic literature and criticism, design, playwriting and evaluating theater performances. This will be accomplished through the production of full and one-act plays, which will be both teacher and student produced, designed and directed. In addition, students would pursue independent, required projects. There will be at least one evening performance required each semester.

Performing Arts: Music						
Course Title	**Credit**	**9**	**10**	**11**	**12**	**Prerequisite**
Choir Foundations	1	X	X	X	X	None
Jag Chorale	1		X	X	X	Audition
Chamber Choir	1		X	X	X	Audition
Wildcat Chorale	1		X	X	X	None
Treble Choir	1		X	X	X	None
Marching Band	0.5	X	X	X	X	None
Fall Concert Band (DHS)	0.5	X	X	X	X	None
Wind Ensemble (DHS)	0.5	X	X	X	X	Audition
Symphonic Band	0.5	X	X	X	X	Audition
Concert Band	0.5	X	X	X	X	Audition
Jazz Band	1	X	X	X	X	Concurrent enrollment in band
Percussion Ensemble	0.5	X	X	X	X	None
Music Appreciation	0.5	X	X	X	X	None
Music Composition	0.5		X	X	X	Music Theory
Multi-Media Music	0.5	X	X	X	X	None
Applied Instrumental Music	0.5	X	X	X	X	Instructor Permission
Music Theory	0.5		X	X	X	None
History of Rock and Roll	0.5	X	X	X	X	None
AP Music Theory	1			X	X	Recommend Music Theory
Class Piano for Beginners	.5	X	X	X	X	None

*Band is a year-long commitment. Enrollment in a first and second semester course is expected.

Choir Foundations Grades 9-12

MUG10A/B Credit: 1

This choir is a beginner ensemble for any student with no prior singing experience at the high school level. The primary focus of this choir will be developing music literacy skills, rehearsal skills and continuing to help the voice develop. In addition to 4 required evening performances, this group will perform at one of our KSHSAA choral festivals.

Chamber Choir Grades 10-12

MUG12A/B Credit: 1

Prerequisite: Audition

This choir is an advanced, auditioned ensemble of SATB (Soprano, Alto, Tenor and Bass) voices. This choir will perform various genres of music, including jazz, madrigals, multicultural and other styles as needed. Members will perform outside of class time in area concerts, KSHSAA Regional and State contests, Kansas Music Educations Association (KMEA) district auditions and will serve as ambassadors of the choir department for school sporting events and area functions.

Treble Choir Grades 10-12

MUG14A/B Credit: 1

This choir is an intermediate ensemble for treble voices (Soprano and Alto only) who have prior high school singing experience. Primary focus will be on building on musicianship skills while developing the voice. In addition to 4 required evening performances, this group will perform at one of our KSHSAA choral festivals.

Jag Chorale MVHS Only Grades 10-12

MUG11A/B Credit: 1

Prerequisite: Audition

This choir is an advanced, auditioned ensemble for SATB (Soprano, Alto, Tenor and Bass) voice parts who have prior high school singing experience. All Jag Singer members must be enrolled in Jag Chorale. Primary focus will be on building on musicianship skills while developing the voice. In addition to 4 required evening performances, this ensemble will perform at KSHSAA Large Group Festival.

Wildcat Chorale DHS Only Grades 10-12

MUG13A/B Credit: 1

This choir is an intermediate ensemble for SATB (Soprano, Alto, Tenor and Bass: voice parts who have prior high school singing experience. Primary focus will be on building on musicianship skills while developing the voice. In addition to 4 required evening performances, this ensemble will perform with De Soto Voce at KSHSAA Large Group Festival.

Marching Band (Fall Only) Grades 9-12

MUG20 Fee: $20 Credit: .5

Prerequisite: Previous band experience or instructor approval

Marching Band is intended to develop students' technique for playing brass, woodwind, and percussion instruments and cover appropriate band literature styles, primarily for marching performances. Offered only in the fall semester. Enrollment in a second-semester instrumental music course is required.

Fall Concert Band (Fall Only)(DHS) Grades 9-12

MUG21A/B Fee: $20 Credit: .5

Prerequisite: MVHS-Previous band experience or instructor approval

The Fall Concert Band is a group for students that do not wish to enroll in Marching Band in the Fall. Students enrolled in this course at MVHS will participate in limited marching band and focus on preparing intermediate-level concert band literature for the rest of the semester. Students enrolled in this course at DHS will exclusively prepare concert band literature while focusing on developing music fundamentals and ensemble skills. Enrollment in a second-semester instrumental music course (Wind Ensemble, Symphonic Band, or Concert Band (DHS Only)) is required.

Wind Ensemble (DHS)(Spring Only) Grades 9-12

MUG28 Credit: .5

Prerequisite: Audition

This is the top performing ensemble at DHS/MVHS. The Wind Ensemble will perform advanced literature. Students in the Wind Ensemble are highly encouraged to participate in the All-District and All-State audition process and are required to perform in a chamber group in the Spring for Solo and Ensemble Festival. A majority of Wind Ensemble students take or have taken private lessons on their instruments and many will perform a solo at Solo and Ensemble Festival. The Wind Ensemble performs on all major band concerts and performs at the KSHSAA State Large Group festival in the Spring.

Symphonic Band (Spring Only) Grades 9-12

MUG22 Credit: .5

Prerequisite: Audition

This is the second performing ensemble at DHS/MVHS. The Symphonic Band will perform intermediate to advanced literature. Students in Symphonic Band are encouraged to participate in the All-District and All-State audition process and are highly encouraged to perform a solo or in a chamber group for Solo and Ensemble Festival. Many Symphonic Band students take or have taken private lessons on their instruments. The Symphonic Band performs on all major band concerts and performs at the KSHSAA State Large Group festival in the Spring.

Concert Band (Spring Only) Grades 9-12

MUG23 Credit: .5

Prerequisite: Audition or Instructor Approval

This is the third performing ensemble at DHS. The Concert Band will perform intermediate literature. Students in the Concert Band are encouraged to participate in the Solo and Ensemble process in the Spring. The Concert Band performs on all major band concerts and may perform at an adjudicated festival in the Spring.

Jazz Band Grades 9-12

MUG24A/B Credit: 1

Students in the Jazz Band will learn to play music in styles including swing, bebop, Latin, funk, and rock. Students will also learn theory, history, and improvisation. The Jazz Band performs at all band concerts and in least one regional adjudicated jazz festival. Enrollment in the Jazz Band is by audition and/or by permission of the instructor. Jazz Band members must also be enrolled in Marching Band or Fall Concert Band in the Fall and Wind Ensemble, Symphonic Band, or Concert Band (DHS Only) in the Spring, with exceptions for players of certain instruments and students with scheduling conflicts.

Percussion Ensemble (DHS Only) Grades 9-12

MUG26 Credit: .5

In this class students will explore the world of percussion. Students will receive both individual and group instruction on all percussion instruments. The percussion ensemble will perform with the high school band on several concerts throughout the semester. This course is co-curricular, meaning that in addition to the regular classroom activities, students will be required to perform outside of the school day. Students need not have any prior experience playing a percussion instrument to enroll in this course.

Music Appreciation (MVHS Only) Grades 10-12

MUG40 Credit: .5

This course is for students who are interested in the study of music history and how music reflects society. Students will learn to apply the fundamentals of music to the following musical eras: Renaissance, Baroque, Classical, Romantic, Music of Stage and Screen, Jazz, Pop, and Rock.

Music Composition Grades 10-12

MUG41 Credit: .5

Prerequisite: Music Theory or AP Music Theory

This class is designed to give students an opportunity to create original music compositions. Students will study numerous compositional techniques from the common practice period and 20th century music. Using these techniques, they will be guided through specific assignments allowing for individual growth in each area.

Multi-Media Music Grades 9-12

MUG42 Credit: .5

In this course students will learn to experience music through the use of multi-media technology. This hands-on course will include units on the elements of music: performing music, creating music, development of music, critical listening, audio recording and reinforcement, music in our world, and music in our daily lives. No previous musical experience is required, only a desire to learn more about music.

Applied Instrumental Music Grades 9-12

MUG43 Credit: .5

Prerequisite: Instructor Permission

The intent of this course is to allow students to prepare music that is specific for their instruments. Students will explore solos, etudes and technical exercises written specifically for their instrument. his class will also serve the student wishing to learn how to play a new instrument.

Music Theory Grades 10-12

MUG44 Credit: .5

The intent of this course is to teach students the basic knowledge of the fundamentals of music theory. Students will be expected to learn notation; rhythm and meter, scales; intervals and keys, chords; form, and composition. Activities include developing aural skills, music analysis, historical practices, rhythmic and melodic dictation, and sight singing.

History of Rock & Roll Grades 9-12

MUG45 Credit: .5

A survey of the history of Rock and Roll in 20th century America, including social issues, composers, performers and listening.

AP Music Theory Grades 11-12

MUP45A/B Credit: 1

Prerequisite: Recommend Music Theory

This rigorous course is intended to prepare students for the AP Music Theory exam. AP Music Theory is designed for the advanced music student seeking mastery of music outside the normal performance medium. This full-year course is equivalent to a college-level music theory class. The course is designed to develop a student's ability to recognize, understand and describe the basic materials and processes of music that are heard or presented in a score. Students will develop oral, sight singing, written, compositional and analytical skills in this course.

Class Piano for Beginners Grades 9-12

MUG46 Credit: .5

This course is designed for beginner piano players or those seeking music literacy skills. It is comprehensive and will cover theory, technique, guided practice and performance aspects of playing the keyboard.

Miscellaneous Courses						
Course Title	**Credit**	**9**	**10**	**11**	**12**	**Prerequisite**
ACT Test and College Preparation	0.5		X	X		None
Work Experience	0.25				X	Job verification
Peers in Learning	.5 or 1.0			X	X	Application
Teacher's Aide	0.25				X	Application
AP Seminar (DHS)	1		X	X	X	None
AP Research (DHS)	1			X	X	AP Seminar
Student Technology Internship	1		X	X	X	Application
Internship	.5 or 1			X	X	Application
AVID 9	1	X				Application
AVID 10	1		X			Application
AVID 11	1			X		Application
Individual & Collaborative Studies	0	X	X	X	X	Application/Referral

ACT Test and College Preparation Grades 10-11

MSG92 Fee: $20 Per Semester Credit: .5

The ACT Test and College Prep course is an elective designed to help students, bound for a 4-year college, understand the ACT testing process, utilize testing strategies, and improve study skills necessary for success in college. The goal is to increase student levels of preparedness for being successful on the ACT test and provide an opportunity for students to utilize study skills needed for college coursework. Curriculum will be reviewed in Math, Science, English, and Reading, specific to the content covered on the test. Practice ACT tests will be required with some tests administered outside of class so that the ACT mandated testing conditions can be simulated. Students are encouraged to complete this course the semester prior to taking the actual ACT test.

Teacher's Aide Grade 12

MSG20 Credit: .25

Prerequisite: Application

Seniors wishing to be a Teacher's Aide must complete an application and submit it to the Counseling Department. In order to be eligible, students must have and maintain a 3.0 GPA, be on target for graduation, have good attendance (fewer than 10 absences by the deadline date), and be in good standing with the school. Selected students will be assigned to a department.

Work Experience MVHS Only Grade 12

MSG40 Credit: .25

Second semester only. Job verification required.

This course gives seniors a chance to understand the different possibilities of employment in the work force, and also to provide them with skills necessary for future job success. Job verification is required for enrollment.

Peers in Learning Grades 11-12

MSG60 (fall) MSG61 (spring) Credit: .5

Prerequisite: Application

Students in this course will work with same age students with disabilities in a classroom setting. This will benefit students who are seeking a career in the education and/or health fields.

AP Seminar (DHS ONLY) Grades: 10-12

MSP10A/B Credit: 1

AP Seminar is a foundational course that engages students in cross-curricular conversations that explore the complexities of academic and real-world topics and issues by analyzing divergent perspectives. Students learn to investigate a problem or issue, analyze arguments, compare different perspectives, synthesize information from multiple sources, and work alone and in a group to communicate their ideas. This is the first of two classes needed for students to qualify for an AP Capstone diploma. According to the College Board, some benefits of participating in the AP Capstone program are that students earn college credit, "become self-confident, independent thinkers and problem-solvers," and, "stand out to colleges in the application process."

AP Research (DHS ONLY) Grades: 11-12

MSP11A/B Credit: 1

AP Research, the second course in the AP Capstone experience, allows students to deeply explore an academic topic, problem, issue, or idea of individual interest. Students design, plan, and implement a year-long investigation to address a research question. Through this inquiry, they further skills they acquired in the AP Seminar course by learning research methodology, employing ethical research practices, and accessing, analyzing, and synthesizing information. Students reflect on their skill development, document their processes and curate the artifacts of their scholarly work through a process and reflection portfolio. The course culminates in an academic paper of 4,000 to 5,000 words (accompanied by a performance, exhibit, or product where applicable) and a presentation with an oral defense.

Student Technology Internship Grades: 10-12

CTG97A/B Credit: 1

Students with technology or programming experience are encouraged to apply to this year-long K12itc internship. Students will assist with trouble shooting basic technology helpdesk issues alongside a K12itc representative. Students will be expected to take on leadership roles, assist students and faculty, and assist with MacBook user knowledge. After showing leadership skills, some students will be asked to apply to the Cerner Scholars Program during second semester.

Internship Grades: 10-12

WSA00 Credit: .5 or 1

This workplace experience course is a career elective course that must correspond with the student's Individual Plan of Study. Students will report to a Work-Based Learning Coordinator at the high school and follow all of the guidelines in the Internship Handbook for reporting to the business/industry. This course can be one or two semesters depending on the length of the internship. Students will seek out this internship and will participate in a minimum of 30 hours of work-related experiences per semester.

AVID 9 DHS ONLY Grade 9

MSG00A/B Credit: 1

AVID (Advancement Via Individual Determination) is an elective course that prepares students for entrance into four-year colleges. There is an emphasis on analytical writing, preparation for college entrance and placement exams, study skills, test taking, note-taking and research. Application process is utilized for selection of students.

AVID 10 DHS ONLY Grade 10

MSG01A/B Credit: 1

AVID (Advancement Via Individual Determination) is an elective course that prepares students for entrance into four-year colleges. There is an emphasis on analytical writing, preparation for college entrance and placement exams, study skills, test taking, note-taking and research. Application process is utilized for selection of students.

AVID 11 DHS ONLY Grade 11

MSG02A/B Credit: 1

AVID (Advancement Via Individual Determination) is an elective course that prepares students for entrance into four-year colleges. There is an emphasis on analytical writing, preparation for college entrance and placement exams, study skills, test taking, note-taking and research. Application process is utilized for selection of students.

Individual and Collaborative Studies Grades 9-12

MSG95A/B Credit: 0

Independent and Collaborative Studies is intended to provide opportunities and support for students to thrive in the courses they are enrolled in. Enrollment in the course is contingent upon application and/or referral for placement.

World Languages										
Course Title	**Credit**	**Weight**	**KS Regents**	**College Credit**	**NCAA**	**9**	**10**	**11**	**12**	**Prerequisite**
French I	1		X		X	X	X	X	X	None
French II	1		X		X		X	X	X	French I
French III	1	FW	X	X	X			X	X	French II
French IV	1	FW	X	X	X				X	French III
French V	1	FW	X	X	X				X	French IV
Spanish I	1		X		X	X	X	X	X	None
Spanish II	1		X		X	X	X	X	X	Spanish I
Spanish III	1		X		X		X	X	X	Spanish II
Spanish IV	1	FW	X	X	X			X	X	Spanish III
Spanish V	1	FW	X	X-MVHS	X				X	Spanish IV
AP Spanish Language & Culture	1	FW	X	X-DHS	X				X	Spanish IV

French I Grades 9-12

WLG21A/B Credit: 1

This course covers the basics in conversational French vocabulary, grammar, geography, and understanding of other cultures. Students will study verbs in the present and near future tenses, elementary grammar concepts, and idiomatic constructions. There will be an emphasis on all four skills of learning a foreign language: listening, speaking, reading and writing, as well as a cultural awareness.

French II Grades 10-12

WLG22A/B Credit: 1

Prerequisite: French I

This course reviews basic grammar and vocabulary from French I and continues to an intermediate level of study of grammar, geography, and cultural awareness. Conversational skills will still be at a novice level. Students will study verbs in the present, past, and future tenses and idiomatic constructions. All four skills of learning a foreign language; listening, speaking, reading, and writing will be stressed.

French III Grades 11-12

WLG23A/B Credit: 1

Prerequisite: French II

This course reviews the basics in conversational French, vocabulary, and grammar. Students will study verbs in the present, past, future, and various compound tenses, as well as more advanced grammar and idiomatic constructions. French history, geography, and culture are studied in the target language. All four skills of listening, speaking, reading, and writing are emphasized. Students should be able to communicate at an intermediate level

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French IV Grade 12

WLG24A/B Credit: 1

Prerequisite: French III

This course reviews the basics in conversational French, vocabulary, and grammar. Students will study verbs in the present, past, future, and various compound tenses, as well as more advanced grammar and idiomatic constructions. French history, geography, and culture are studied in the target language. All four skills of listening, speaking, reading, and writing are emphasized. Students should be able to communicate at an intermediate level.

French V MVHS Only Grade 12

WLG25A/B Credit: 1

Prerequisite: French IV

In this course, students begin a more in-depth study of French grammar and vocabulary as they improve their mastery of the four communicative skills (listening, speaking, reading and writing). Reading assignments (from literary, journalistic, and internet sources) will be more advanced and writing assignments will be more extensive at the Intermediate level. May be taken for College Now credit through Johnson County Community College.

Spanish I Grades 9-12

WLG10A/B Credit: 1

This course covers the basics in conversational Spanish vocabulary, grammar, geography, and understanding of other cultures. Students will study verbs in the present and near future tenses, elementary grammar concepts, and idiomatic constructions. There will be an emphasis on all four skills of learning a foreign language: listening, speaking, reading and writing, as well as a cultural awareness.

Spanish II Grades 11-12

WLG12A/B Credit: 1

Prerequisite: Spanish I

This class reviews the basic vocabulary and grammar from Spanish I. The four language skills and cultural awareness will continue to be emphasized to an advanced novice level. Students will study verbs in the present, past and near future tenses. More advanced grammar and idiomatic constructions will be introduced as well as a greater volume of vocabulary.

Spanish III Grade 12

WLG13A/B Credit: 1

Prerequisite: Spanish II

This class begins where Spanish II ends. A variety of activities incorporate several new verb tenses with new units of vocabulary. In addition, short readings enhance reading comprehension as well as cultural awareness. Students should exhibit an acceptable degree of proficiency at the beginning intermediate level in the four basic skills of listening, speaking, reading, and writing in the target language.

Spanish IV Grades 11-12

WLG14A/B Credit: 1

Prerequisite: Spanish III

Students will interact at the high intermediate level in the skills of listening, reading, writing and at the low to middle intermediate level in speaking. A review of all verb tenses will be included in addition to reading short stories and poetry. Students will also continue active participation in the language while continuing to learn about the target culture.

Spanish V MVHS Only Grade 12

WLG15A/B Credit: 1

Prerequisite: Spanish IV

Students will interact at the high level in the skills of listening, reading, writing and at the middle intermediate level in speaking. A review of all verb tenses will be included in addition to reading short stories and poetry. Students will also continue active participation activities in the language.

AP Spanish Language & Culture DHS Only Grade 12

WLP16A/B Credit: 1

Prerequisite: Spanish IV

Promotes students' proficiency in the interpersonal, interpretive, and presentational modes of communication in Spanish. This course is designed to provide students with various opportunities to further improve proficiency in listening, speaking, reading, and writing skills to be ready for the AP Spanish Language and Culture Examination. This course provides another avenue to earn college credit by completing the equivalent of Spanish V coursework and demonstrating proficiency on the AP exam.

USD 232 **Career & Technical Education (CTE) Pathways:**
Bioscience: Biochemistry & Biomedical
Business Finance
Construction & Design
Digital Media
Engineering & Applied Mathematics
Family, Community & Consumer Services
Graphic Design
Manufacturing
Marketing
Programming & Software Development
Teaching/Training
Web & Digital Communications

Additional Career Ready Partnerships:

Eudora-De Soto Technical Education Center (EDTEC):
Comprehensive Agriculture Science
Health Science
Mobile Equipment Maintenance
Restaurant & Event Management

Kansas City Kansas Community College Technical Education Center (KCKCC TEC):
Auto Collision Repair I & II
Auto Technology I & II
Certified Nursing Assistant
Welding I & II

Johnson County Community College (JCCC):
Automation Engineer Technology
Automotive Technology I & II
Construction Management
Certified Nursing Assistant
Electronics Technology (digital, analog, lab systems, etc.)
Electrical Technology (lighting, appliances, security, etc.)
Heating, Ventilation, Air Conditioning Technology
Plumbing Technology
Welding I & II

Bioscience Pathway

Course Title	Course Code	Credit	Weight	College Credit	10	11	12	Course Fee	Prerequisite	CTEC	DHS	MVHS
Chemistry	SCG20A/B	1			X	X	X	$10	Biology and concurrent enrollment in Math II		X	X
Anatomy & Physiology	SCG40A	1				X	X	$10	Biology Chemistry		X	X
AP Environmental Science	SCP50	1	FW			X	X	$10	Biology		X	X
Medical Interventions	CTC77A/B	1				X	X	$10	Biology and Chemistry or concurrent enrollment	X		
AP Biology	SCP10A/B	1	FW	X (MVHS)		X	X	$10	Biology & Chemistry		X	X
***Environmental Resources and Wildlife Science**	SCG14A/B	1				X	X	$10	Chemistry		X	X
***Biotechnical Engineering**	CTC71A/B	1				X	X	$10	Chemistry	X		
***Biomedical Innovation**	CTC74A/B	1				X	X	$10	Medical Interventions	X		
***Biochemistry Workplace Experience**	CTG75A/B	1				X	X		Application	X	X	X
***Biomedical Research / Workplace Experience**	CTC76A/B	1				X	X		Application	X		
*Application Level CTE Courses												

Chemistry (1 credit)
The class is designed to provide students with a solid foundation in chemical knowledge and principles needed for success in college chemistry. Topics covered include atomic structure, periodic properties of elements, chemical bonding, molecular structure, chemical equations, stoichiometry, gas laws, and acid/base chemistry.

AP Environmental Science (1 credit)
Equivalent to a one semester, introductory college course in environmental science, through which students engage with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world. Environmental Science is interdisciplinary, embracing topics from geology, biology, environmental studies, environmental science, chemistry and geography.

AP Biology (1 credit)
This rigorous course is intended to prepare students for the AP Biology exam. This course will provide students with the conceptual framework, factual knowledge and analytical skills necessary to deal critically with the rapidly changing science of Biology. The goals of the course are to help students develop a conceptual framework for modern Biology and gain an appreciation of science as a process through lab experiences.

Biotechnical Engineering (1 credit)
Biotechnical Engineering enables students to develop and expand their knowledge and skills in biology, physics, technology and mathematics. Course content draws upon diverse fields such as biomedical engineering, bimolecular genetics, bioprocess engineering, or environmental engineering. Students may engage in project-based learning and problems related to biomechanics, cardiovascular engineering, genetic engineering, tissue engineering, biomedical devices, human interfaces, bioprocesses, forensics, and bioethics.

Biochemistry Workplace Experience (1 credit)
This course can be one or two semesters depending on the length of the internship. Biochemistry workplace might combine onsite experiences with in-class experiences and provide students with the opportunity to work on client-based projects or a senior capstone project.

Biomedical Research / Workplace Experience (1 credit)
Advanced level application course that incorporates experienced based learning including client-based projects, a senior capstone project, or Internships supported by classroom research within their area of interest/study.

Anatomy & Physiology (1 credit)
This course involves a study into the structure and function of the human body. Eleven body systems will be investigated through a problem based learning approach. Major emphasis will be placed on learning how these systems work.

Medical Interventions (1 credit)
Medical Interventions allows students to investigate the variety of interventions involved in the prevention, diagnosis, and treatment of disease. This course will explore how to prevent and fight infection, how to screen and evaluate the code in our DNA, how to prevent, diagnose, and treat cancer, and how to prevail when the organs of the body begin to fail. Through these scenarios, students will be exposed to the wide range of interventions related to immunology, surgery, genetics, pharmacology, medical devices, and diagnostics. Students practice problem solving with structured activities and progress to open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills. Students should take this course prior to taking Biomedical Innovation.

Environmental Resources & Wildlife Science (1 credit)
This is an advanced level course that builds on Environmental Science and other life science classes. This course will provide strong emphasis on field and classroom research, laboratory investigations, and real-life application in the field of environmental science through partnerships with outside businesses. Students will gain a solid foundation for pursuit of a potential career in a field related to environmental science. Potential topics include: sustainability, conservation, ecology, soils, water resources, fisheries, plants, forestry, wildlife, air quality, waste, energy, and environmental careers.

Biomedical Innovation (1 credit)
In this research course, students will apply their knowledge and skills to answer questions or solve problems related to the biosciences. Students design innovative solutions for the health challenges of the 21st century (such as the cure for Cancer, etc.) by addressing topics such as clinical medicine, biochemistry, physiology, biomedical engineering, and/or public health. They may have the opportunity to work on an independent project and may work with a mentor or advisor from industry.

Finance Pathway													
Course Title	**Course Code**	**Credit**	**Weight**	**College Credit**	**9**	**10**	**11**	**12**	**Course Fee**	**Prerequisite**	**CTEC**	**DHS**	**MVHS**
Business Essentials	CTG20	0.5			X	X	X			None		X	X
Accounting	CTG23A/B	1				X	X	X		Business Essentials		X	X
Consumer & Personal Finance	CTG38	0.5			X	X	X	X		None		X	X
Business Communications	CTG32	0.5					X	X		Business Essentials			X
***Investing**	CTG25	0.5				X	X	X		Business Essentials			X
***Advanced Accounting**	CTG26A/B	1					X	X		Accounting		X	X
***Finance Workplace Experience**	CTG33A/B	1					X	X		Application + 2 Courses within Pathway		X	X
*Application Level CTE Courses													

Consumer & Personal Finance (.5 credit)
This course provides students with an understanding of the concepts and principles involved in managing one's personal finances. Topics include savings and investing, credit, insurance, taxes and social security, spending patterns, budget planning, contracts and consumer protection.

Investing (.5 credit)
Investing emphasizes the formulation of business and individual investment decisions by comparing and contrasting the investment qualities of cash, stock, bonds, and mutual funds. Students will review annual reports, predict growth rates, and analyze trends, money market accounts, loans, investments, and negotiable instruments.

Business Essentials (.5 credit)
Business Essentials is a core course designed to peak student interest in the fields of Business Management, Marketing, and Finance. Units covered include Management, Finance, Economics/Marketing, Accounting and Corporate Ethics. Upon completion of this course students will have the background knowledge necessary to succeed in a Management, Finance or Marketing Pathway specific course.

Finance Workplace Experience (1 credit)
This course can be one or two semesters depending on the length of the internship. Students will seek out this internship, which might combine onsite experiences with in-class experiences and provide students with the opportunity to work on client-based projects or a senior capstone project.

Business Communications (.5 credit)
Business Communications courses help students to develop an understanding and appreciation for effective communication in business situations and environments. Emphasis is placed on all phases of communication: speaking, listening, thinking, responding, reading, writing, communication non-verbally, and utilizing technology for communication. Business communication functions, processes, and applications in the context of business may be practiced through problem-based projects and real-world applications.

Advanced Accounting (1 credit)
This course will build upon accounting concepts previously learned during the first- year course while expanding on new topics such as accounting for a merchandising business organized as a corporation and additional accounting procedures. Strong emphasis is placed on using technology with accounting concepts.

Accounting (1 credit)
This course will provide the introduction of fundamental accounting principles and procedures used in business. Students will understand the principles of debits and credits, journalizing transactions, posting to ledgers, and determining profit or loss. Students will also learn to create formal financial statements to be used for the reporting of net income or net loss.

Construction & Design Pathway

Course Title	Course Code	Credit	Weight	College Credit	9	10	11	12	Course Fee	Prerequisite	CTEC	DHS	MVHS
Residential Carpentry I	CTG11A/B	1			X	X	X	X	$40			X	X
Woodworking	CTG13A/B	1				X	X	X	$40			X	X
Drafting/CAD	CTG10A/B	1			X	X	X	X	$20			X	X
Architectural Design	CTG15A/B	1				X	X	X	$20	Drafting/CAD		X	X
***Residential Carpentry II**	CTG12A/B	1				X	X	X	$40	Residential Carpentry I		X	X
***Interior Architectural Design**	CTG14	.5					X	X	$10	Architectural Design		X	X
***Research & Design in Building Trades**	CTG16A/B	1					X	X	$20	Residential Carpentry I + Application			X
***Research & Design for Pre-Construction**	CTG17A/B	1						X	$20	Interior Design or concurrent enrollment		X	X
***Construction & Design Workplace Experience**	CTG18A/B	1					X	X		Application + 2 Courses within Pathway		X	X

*Application Level CTE Courses

Residential Carpentry I (1 credit)
This hands on course instructs students in the knowledge and skills to repair common household problems and plan and complete home improvement projects. Students will have the opportunity to earn OSHA "General" certification which is a separate fee payment of $25.

Drafting/CAD (1 credit)
This course is designed to build basic mechanical and computer drafting skills. Students will learn basic conventions of drafting including sketching, plate layout, measuring, scaling, orthographic drawings, dimensioning, isometric drawings, 3-D modeling, and sectional drawings. The course includes an introduction to principles of architecture.

Residential Carpentry II (1 credit)
This hands-on course will instruct students in knowledge and skills in rough construction and finish work. Students will work in teams to complete a finished construction product. Students will have the opportunity to earn OSHA "Construction" certification which is a separate fee payment of $25.

Research & Design for Building Trades (1 credit)
This course will focus on design and construction principles which include management and Green Building skills. Students will design and draw house plans as well as assemble a model of their home design. Students will also have the opportunity to work on independent projects, or projects requested by the instructor or the district.

Construction & Design Workplace Experience (1 credit)
This course can be one or two semesters depending on the length of the internship. Students will seek out this internship, which might combine onsite experiences with in-class experiences and provide students with the opportunity to work on client-based projects or a senior capstone project.

Woodworking (1 credit)
Woodworking courses introduce students to the various kinds of woods used in industry and offer experience in using selected woodworking tools. Students construct multiple projects and prepare a bill of materials. Correct and safe use of tools and equipment is emphasized. As students advance, they focus on learning the terminology necessary to use power tools successfully, developing skills to safely use these tools in the workshop and becoming familiar with various kinds of wood-finishing materials.

Architectural Design (1 credit)
This course focuses on the elements of architecture including historical styles of architecture, calculating/estimating building costs, producing building plans, drawing elevations, researching plots, etc. Some drawings are completed in CAD. This class culminates in a small-scale model of a residential building design.

Interior Architectural Design (.5 credit)
This class is an advanced course in the Architecture pathway. It will instruct students in skills necessary to design interior spaces that apply design elements and principles for residential, special needs, commercial, and industrial uses. Topics include: client's needs, legislated codes, historic considerations, trends, and public policy.

Research & Design for Pre-Construction (1 credit)
This course will focus on advanced design and architecture principles which include working with clients, estimating and budgeting for construction, creating and managing sheet sets, new techniques and materials, and advanced 3D modeling. Students will design and model a home for a client, completing all stages in the design process and leave the course with a full home design for their portfolio.

Digital Media Pathway

Course Title	Course Code	Credit	Weight	College Credit	9	10	11	12	Course Fee	Prerequisite	CTEC	DHS	MVHS
21st Century Journalism	CTG03	.5			X	X	X					X	X
Audio/Video Production Fundamentals	CTG85	.5			X	X	X	X	$20			X	X
Photo Imaging	CTG00	.5			X	X	X	X	$20			X	X
Graphic Design Fundamentals	CTG04	.5			X	X	X		$20		X		X
Graphic Design	CTG52A/B	1				X	X	X	$40	Graphic Design Fundamentals	X		X
***Video Production I**	CTG05A/B	1				X	X	X	$20	AV Production Fundamentals + Application		X	X
***Video Production II**	CTG06A/B	1					X	X	$20	Video Production I + Application		X	X
***Video Production III**	CTG07A/B	1						X	$20	Video Production II + Application			X
***Digital Media Design & Production I: Broadcast I**	CTG86A/B	1				X	X	X	$20	AV Production Fundamentals + Application		X	X
***Digital Media Design & Production II: Broadcast II**	CTG87A/B	1					X	X	$20	Broadcast I + Application			X
***Digital Media Design & Production III: Broadcast III**	CTG08A/B	1						X	$20	Broadcast II + Application			X
***Digital Media Design & Production I: Yearbook I**	CTG81A/B	1				X	X	X		21st Century Journalism/Photo Imaging + Application		X	X
***Digital Media Design & Production II: Yearbook II**	CTG82A/B	1					X	X		Yearbook I		X	X
***Digital Media Design & Production III: Yearbook III**	CTG88A/B	1						X		Yearbook II		X	X
***Digital Media Design & Production I: Newspaper I**	CTG83A/B	1				X	X	X		21st Century Journalism/Photo Imaging + Application		X	X
***Digital Media Design & Production II: Newspaper II**	CTG84A/B	1					X	X		Newspaper I		X	X
***Digital Media Design & Production III: Newspaper III**	CTG89A/B	1						X		Newspaper II		X	X
***Digital Media Project Management**	CTG57A/B	1					X	X	$20	Application		X	X
*Application Level CTE Courses													

21st Century Journalism (.5 credit)
Students will become better communicators in this class, which emphasizes writing, critical thinking and technology skills. We will explore the role media and the communications industry has in society as well as the ethical and legal issues related to the field. Students will develop technical skills related to journalistic writing, editing and interviewing. This course is a prerequisite for a position on the yearbook or newspaper staff.

Photo Imaging (.5 credit)
Students will learn about the equipment, software and hardware necessary to master the basics in digital photography. Students will demonstrate understanding and use of camera techniques as well as photo manipulation and graphic design software. This is a project-based course. This course is a prerequisite for a position on the yearbook or newspaper staff.

Graphic Design Fundamentals (.5 credit)
Graphic Design Fundamentals is an introduction to design elements and principles in the purposeful arrangement of images and to communicate a message. The focus is on learning typography, composition and visualization in order to create art products such as posters, flyers and other print media.

Audio/Video Production Fundamentals (.5 credit)
A/V Production Fundamentals provides a basic understanding of producing video for a variety of uses. Core of study will focus on communication skills, public speaking and creating videos using Adobe Premiere Pro. Other topics include analyzing the pre-production, production and post-production process, as well as exploring the equipment and techniques used to develop a quality video production. This course is a prerequisite for a position on the Broadcast/Video Production staff.

Graphic Design (1 credit)
Graphic Design will focus on creativity and the design process with an emphasis on creative thinking and problem solving. We will create art products such as compositions, branding and logo design, package design, corporate brochures and advertising. We will learn and incorporate the production processes with our projects and know the differences between spot printing and process printing.

Video Production I (1 credit)
Video Production applies the technical skills learned in Audio Video Production Fundamentals by allowing students to orchestrate projects from setting the objectives to the post-production evaluation. The complexity of the presentation is not the focus of the course, but the experience of the entire process, including planning the presentation, setting up the studio, and acting as videographer and editor. Students must be highly motivated to complete projects outside of class time.

Video Production II (1 credit)
Video Production II applies experiences gained in Video Production I by allowing students to focus on production teams and orchestrate projects from setting the objectives to the post-production evaluation. Students will produce various videos including independent films, PSA's and commercials as well as any video requested by staff, administration and/or district. Students must be highly motivated to complete projects outside of class time.

Video Production III (1 credit)
Video Production III applies experiences gained in Video Production II by allowing students to focus on more leadership roles in class, such as working with training Video Production I & II students. They will also help with pre-, during-, and post-production of a variety of videos, training new students, and completing projects requested by staff, administration, district, and community members. Students must be highly motivated and willing to train new staff.

Digital Media Design & Production I: Broadcast I (1 credit)
Digital Media Design and Production I will provide students with the opportunity to apply the fundamental techniques learned in Audio/Video Production Fundamentals course through the production of multi-media broadcast projects for public presentation. Other topics include developing a production schedule, working as a team, utilizing composition principles and embedding audio, video or other content in digital formats.

Digital Media Design & Production II: Broadcast II (1 credit)
Digital Media Design and Production II (Broadcast II) will apply the experiences gained in Digital Media Design and Production I (Broadcast). Students will complete several major media production projects and act in leadership positions on the MVTV news team. Students must be highly motivated to complete projects outside of class time.

Digital Media Design & Production III: Broadcast III (1 credit)
Students will take on leadership roles, including producers, assistant producers, managers, etc. They will be responsible for pre-, during-, and post-production of the weekly show, managing social mediums, training staff, determining due dates, staff management, conflict/resolution, etc. Students will commit to before/during/after school hours to complete the goals of the class and assist other staff members, the school, district, and other community members.

Digital Media Design & Production I: Newspaper I (1 credit)
Students will study and apply the elements of reporting, interviewing, editing, advertising, layout, photography and computerized desktop publishing. The class members will work cooperatively with the school district and the community to produce both the printed and online version of the student newspaper. Students must be willing to expand their knowledge level, to regularly contribute written articles, to make appropriate journalistic and artistic choices. Students will be expected to attend after school and evening work sessions and sell advertisements to businesses in order to help finance the publication.

Digital Media Design & Production II: Newspaper II (1 credit)
This advanced section of newspaper production is designed to provide students more experience in using technology to create a professional looking print and online student newspaper. Students will take on leadership roles on the staff, including editor in chief, photo editor, copy editor or section editor. They will be responsible for staff management, page and magazine redesign, and other administrative duties on the staff. They will also lead the staff by teaching conflict resolution, motivating new staff members to succeed and encouraging all staff to work together towards a common goal. Students will be expected to attend after school and evening work sessions and to sell advertisements to businesses in order to help finance the publication.

Digital Media Design & Production III: Newspaper III (1 credit)
Students will take on leadership roles on the staff, including editor in chief, photo editor, copy editor or section editor. They will be responsible for staff management, page and magazine re design, and other administrative duties on the staff. They will also lead the staff by teaching conflict resolution, motivating new staff members to succeed and encouraging all staff to work together towards a common goal. Students will be expected to attend after school and evening work sessions and to sell advertisements to businesses in order to help finance the publication.

Digital Media Design & Production I: Yearbook I (1 credit)
Students will study and apply the principles of magazine journalism including theme development, reporting, photography and layout in the production of the yearbook. Students will be challenged to expand their knowledge level, to become skilled in the use of computerized desktop publishing, to make appropriate journalistic and artistic choices. Students will be expected to work on the publication after school and evenings and to sell advertisements to businesses in order to help finance the publication.

Digital Media Design & Production II: Yearbook II (1 credit)
This advanced section of yearbook production is designed to give students even more experience in using technology to create professional looking publications. Students will take on leadership roles on the staff, including editor in chief, photo editor, copy editor or section editor. They will be responsible for staff management, theme development and other administrative duties on the staff. Students will be expected to attend after school and evening work sessions and to sell advertisements to businesses in order to help finance the publication.

Digital Media Design & Production III: Yearbook III (1 credit)
Students will take on leadership roles on the staff, including editor in chief, photo editor, copy editor or section editor. They will be responsible for staff management, theme development, and other administrative duties on the staff. Students will be expected to attend after school and evening work sessions and to sell advertisements to businesses in order to help finance the publication.

Digital Media Project Management (1 credit)
Students who enroll in Independent Study for Broadcast, Yearbook or Newspaper would be the students who would enroll in this course. Project Management will give students more formal competencies to meet as they complete their responsibilities as leaders in Broadcast or print journalism.

Engineering and Applied Mathematics Pathway

Course Title	Course Code	Credit	Weight	College Credit	9	10	11	12	Course Fee	Prerequisite	CTEC	DHS	MVHS
Engineering Design (ED)	CTG60A/B	1	FW	X (DHS)	X	X	X	X	$20			X	X
Principles of Applied Engineering (POAE)	CTG61A/B	1				X	X	X	$20	Engineering Design		X	X
Robotics I	CTG66A/B	1					X	X	$20		X		
Digital Electronics (DE)	CTG62A/B	1	FW	X			X	X	$20	Engineering Design	X		
Computer Integrated Manufacturing (CIM)	CTG63A/B	1					X	X	$20	Engineering Design	X		
Robotics Capstone	CTC97A/B	1					X	X	$20	Robotics I or Instructor Approval; No concurrent enrollment	X		
***Engineering Design & Development (EDD)**	CTG64A/B	1						X	$20	Engineering Design, POAE, CIM/DE or concurrent enrollment	X		
***Engineering Workplace Experience**	CTG65A/B	1					X	X		Application + 2 Courses within Pathway	X		
*Application Level CTE Courses													

Engineering Design (1 credit)
This course introduces students to the engineering design process. Working in teams they learn how to use sketching as a means to communicate their ideas as well as the geometry that is used in parametric modeling, assembly, and motion constraints. Students will explore the production and marketing of products.

Computer Integrated Manufacturing (1 credit)
Computer Integrated Manufacturing involves the study of robotics and automation. Building on computer solid modeling skills, students may use computer numerical control (CNC) equipment to produce actual models of their three-dimensional designs. Course topics may also include fundamental concepts of robotics, automated manufacturing, and design analysis.

Engineering Design & Development (1 credit)
Engineering Design and Development (EDD) is the capstone course in the PLTW high school engineering program. It is an engineering research course in which students work in teams to design and develop an original solution to a valid open-ended technical problem by applying the engineering design process.

Engineering Workplace Experience (1 credit)
This course can be one or two semesters depending on the length of the internship. Students will seek out this internship, which might combine onsite experiences with in-class experiences and provide students with the opportunity to work on client-based projects or a senior capstone project.

Principles of Applied Engineering (1 credit)
This course explores the wide variety of careers in engineering and technology and looks at various technology systems and manufacturing processes, including robotics. Using activities, projects and problems, students learn first-hand how engineers and technicians use math, science and technology in an engineering problem solving process to benefit people.

Digital Electronics (1 credit)
A rigorous college-credit course that uses computer simulations to learn about the logic of electronics as they design, test, and construct circuits and devices. Students design circuits to solve open-ended problems, assemble their solutions, and troubleshoot them as necessary. Students will use mathematic theorems to perform Boolean algebraic functions to design complex logic circuits.

Robotics I (1 credit)
Students will be introduced to the main types of robotics, plus, students will build, assemble and troubleshoot robotic devices/systems while constructing and verifying circuits. This is a project-based course in which students will work on collaborative projects.

Robotics Capstone (1 credit)
This course is designed to be taken after Robotics I offered at CTEC. Students will build on the knowledge gained during the first year of Robotics by working with a team of their peers to compete in several area robotics competitions.

Family, Community & Consumer Services Pathway

Course Title	Course Code	Credit	Weight	College Credit	9	10	11	12	Course Fee	Prerequisite	CTEC	DHS	MVHS
Career and Life Planning	CTG35	.5			X	X	X	X				X	X
Human Growth and Development: The Early Years	CTG36	.5			X	X	X	X				X	X
Family Studies	CTG37	.5			X	X	X	X				X	X
Consumer & Personal Finance	CTG38	.5			X	X	X	X				X	X
Nutrition and Wellness	CTG39	.5			X	X	X	X	$20			X	X
Culinary Essentials	CTG41	.5				X	X	X	$20	Nutrition and Wellness + Application		X	X
Leadership & Service in Action	CTG40	.5					X	X		Application		X	X
***Community Connections**	CTG42A/B	.5					X	X		Career and Life Planning and Application		X	X
***Career Connections**	CTG43A/B	.5					X	X		Career and Life Planning and Application		X	X
***Senior Symposium**	CTG42A/B	2						X		Co-requisites		X	
*Application Level CTE Courses													

Career & Life Planning (.5 credit)
Students will explore skills and strategies helpful in being more focused and productive individuals. This course emphasizes goal setting, career path decision, educational opportunities, employability skills, stress and time management. Students will participate in mock interviews, educational planning, and job shadow experiences. Students will need to provide transportation to their desired job shadow.

Consumer & Personal Finance (.5 credit)
This course provides students with an understanding of the concepts and principles involved in managing one's personal finances. Topics include savings and investing, credit, insurance, taxes and social security, spending patterns, budget planning, contracts and consumer protection.

Nutrition & Wellness (.5 credit)
Nutrition and Wellness will prepare students to explore different components of wellness which includes physical, social, and emotional health. This course will provide students with knowledge and skills related to various types of diets, nutritional information, and nutrition-related disease prevention. Students will be introduced to kitchen safety and sanitation and receive hands-on lab experiences focusing on how to meet nutritional needs and requirements for a healthy lifestyle.

Culinary Essentials (.5 credit)
Culinary Essentials is a semester class that would introduce students to basic culinary skills, including different cooking methods and explore baking and pastry. Students will learn through lab activities and classroom instruction. Students will integrate knowledge, skills and practices required for careers in food production and services: demonstrate food safety and sanitation procedures; apply different cooking methods in a variety of labs, apply measuring techniques; follow a recipe; examine the principles of food production management service methods; and demonstrate common food production skills. Students will apply principles of nutrition to food preparation. Students will leave Culinary Essentials with the marketable skills in the food industry and have the opportunity to obtain their ServSafe Certification.

Leadership & Service in Action (.5 credit)
Students will evaluate their leadership skills to identify and strengthen weaknesses, and enhance strengths. The students will apply mastered and developing leadership skills in a variety of situations to support the mission of the school.

Human Growth & Development: The Early Years (.5 credit)
This course provides students with knowledge about the physical, intellectual, emotional, and social growth (PIES) and development of humans from conception to the early years, with a special emphasis on birth. Students might have an opportunity to participate in a project with the "Real Care Babies."

Family Studies (.5 credit)
This course emphasizes building and maintaining healthy interpersonal relationships among family members and others in society. Topics include (but are not limited to) communication, dating, marriage, responsible parenting, and family units. Students will be introduced to the Empathy Belly during this course. Students might have an opportunity to participate in a project with the "Real Care Babies."

Community Connections (.5 credit)
Community Connections courses provide community based/school based learning experiences mainly within the family and consumer sciences classroom. Learning goals are set by the student, teacher and community partners to create experiences to enhance the development of the 21st century skills.

Career Connections (.5 credit)
During this course, students would explore potential future careers in human services, research postsecondary institutions or certifications that lead to those careers, and plan their high school journey based on that knowledge. Students will complete an internship in the course and are responsible for transportation.

Senior Symposium (2 credits)
Senior Symposium is the De Soto High School Senior Capstone Course that supports students as they transition to adulthood. As DHS students enter grade 12, many are prepared to engage in careers, technical post-secondary experiences, and college-level coursework. For these students, their senior year should provide a unique opportunity to earn college credit, achieve career ready certifications, participate in career internships, or enroll in postsecondary educational opportunities with advanced standing after high school graduation. The purpose of Senior Symposium is to provide students this opportunity while allowing time and the benefit of the structures and supportive environment available to them from DHS, their families, and community.
This course requires students to enroll in specific co-requisites and participation/completion of three activities: 1) attendance at each scheduled Symposium session, 2) a completed Senior Portfolio, and 3) attendance at scheduled College/Career Counseling One-on-One Appointments.

Graphic Design Pathway

Course Title	Course Code	Credit	Weight	College Credit	9	10	11	12	Course Fee	Prerequisite	CTEC	DHS	MVHS
Photo Imaging	CTG00	.5			X	X	X		$20			X	X
Computer Graphics	CTG54A/B	1			X	X	X	X			X	X	X
Graphic Design Fundamentals	CTG04	.5			X	X	X		$20		X		X
Principles of Illustration	CTG02	.5					X	X	$20		X		
Graphic Design	CTG52A/B	1				X	X	X	$40	Graphic Design Fundamentals	X		X
***Graphic Design Workplace Experience**	CTG01A/B	1					X	X	$40	Graphic Design	X		X
*Application Level CTE Courses													

Photo Imaging (.5 credit)
Students will learn about the equipment, software and hardware necessary to master the basics in digital photography. Students will demonstrate understanding and use of camera techniques as well as photo manipulation and graphic design software. This is a project-based course. This course is a prerequisite for a position on the yearbook or newspaper staff.

Computer Graphics (1 credit)
Computer Graphics will teach students how to create meaningful, eye-appealing graphics using a variety of strategies and techniques. The Image-editing tools available in Photoshop will give us the ability to retouch, enhance and add special effects. Basic animation will also be introduced.

Graphic Design (1 credit)
Graphic Design will focus on creativity and the design process with an emphasis on creative thinking and problem solving. We will create art products such as compositions, branding and logo design, package design, corporate brochures and advertising. We will learn and incorporate the production processes with our projects and know the differences between spot printing and process printing.

Graphic Design Fundamentals (.5 credit)
This class will serve as an introduction class to graphic design. Graphic Design Fundamentals provides a basic understanding of the graphic design process. Topics include analyzing the design elements and principles, exploring industry tools, software and equipment and learning composition techniques to develop a quality product.

Principles of Illustration (.5 credit)
Principles of Illustration explores a variety of media, tools and supports as a means to communicate ideas. Topics include an understanding of illustration as applicable to careers in graphic design, animation, apparel/textile design, industrial design, web design, architecture, interior design and fine arts. Techniques in traditional and digital illustration applications will be explored as directly linked to social trends.

Graphic Design Workplace Experience (1 credit)
Graphic Design Workplace Experience will take the tools and software that you used in Graphic Design and apply them to “real world” applications. We will meet with clients and gain an understanding of problem solving for real projects considering production processes and client’s needs. We will develop a digital portfolio of projects to prepare you for submissions to college and to prepare you for job interviews.

Manufacturing Pathway (at CTEC)

Course Title	Course Code	Credit	Weight	College Credit	11	12	Course Fee	Prerequisite
Robotics	CTG66A/B	1			X	X	$20	None
Emerging Technologies	CTG55A/B	1			X	X	$40	None
Introduction to Welding	CTG67	.5			X	X	$40	Robotics or Emerging Technologies or concurrent enrollment
Production Blueprint Reading	CTG68	.5			X	X	None	Robotics or Emerging Technologies or concurrent enrollment
Production Methods I	CTC69A/B	1			X	X	$40	Intro to Welding & Production Blueprint Reading
***Production Methods II**	CTC96A/B	1			X	X	$40	Production Methods I
***Digital Electronics**	CTG62A/B	1	FW	X	X	X	$20	Engineering Design
***Work Experience in Manufacturing**	CTG72A/B	.5 or 1			X	X	$20	Mass Production + Application
*Application Level CTE Courses								

Manufacturing – Year One Course Block – (STEP ONE)
CTEC requires 2 full blocks per year
Choose **one** of the following:

Robotics (1 credit)
Students will be introduced to the main types of robotics, plus, students will build, assemble and troubleshoot robotic devices/systems while constructing and verifying circuits. This is a project-based course in which students will work on collaborative projects.

Emerging Technologies (1 credit)
Students will be exposed to the emerging technology of 3D rendering software and printing. The course will be project-based and students will create projects using a variety of materials and technologies. The course will expose students to topics in the fields of engineering, programming, electronics, mold-making, manufacturing, metalsmithing, and design.

Manufacturing – Year One Course Block – (STEP ONE continued)
CTEC requires 2 full blocks per year
Must choose **both** of the following:
NOTE: Course content is "merged" throughout the year.

Introduction to Welding (.5 credit)
An introductory level course designed to instruct students in basic welding and metal fabrication skills. Student will have the option to complete the OSHA 10-Hour General Industry (Manufacturing) Certification which is an additional fee payment of $25.

Production Blueprint Reading (.5 credit)
A course designed to develop advanced technical communication skills used to interpret manufacturing production drawings as related to manufacturing occupations including blueprints, schematics, and other trade prints.

Manufacturing – Year Two Course Block – (STEP TWO)
CTEC requires 2 full blocks per year
Choose **one** of the following:

Production Methods I (1 credit)
A comprehensive course designed to instruct students in the knowledge and skills common to manufacturing occupations and required for fabricating products using a variety of materials (plastic, metal, composites, etc.)

Production Methods II (1 credit)
An application level course which builds on skills learned in Mass Production I where students will learn and apply advanced manufacturing and fabrication skills using current manufacturing technologies.

Digital Electronics (1 credit)
A rigorous college-credit course that uses computer simulations to learn about the logic of electronics as they design, test, and construct circuits and devices. Students design circuits to solve open-ended problems, assemble their solutions, and troubleshoot them as necessary. Students will use mathematic theorems to perform Boolean algebraic functions to design complex logic circuits.

Research & Design for Manufacturing (.5 or 1 credit)
Advanced level application course that incorporates experienced based learning including client-based projects, a senior capstone project, or Internships supported by classroom attendance and discussion, within their area of interest/study. Can be taken for .5 credit or 1 credit depending on length of internship.

Marketing Pathway

Course Title	Course Code	Credit	Weight	College Credit	9	10	11	12	Course Fee	Prerequisite	CTEC	DHS	MVHS
Business Essentials	CTG20	.5			X	X	X					X	X
Business Communications	CTG32	.5					X	X		Business Essentials			X
Marketing	CTG27A/B	1				X	X	X		Business Essentials		X	X
Accounting	CTG23A/B	1				X	X	X		Business Essentials		X	X
Sports & Entertainment Marketing	CTG28	.5			X	X	X	X		Business Essentials		X	
Computer Graphics	CTG54A/B	1			X	X	X	X			X	X	X
Web Page Design	CTG50A/B	1			X	X	X	X				X	X
Graphic Design	CTG52A/B	1				X	X	X	$40	Graphic Design Fundamentals	X		X
***Marketing Applications**	CTG29A/B	1				X	X	X	$40 (MVHS)	Marketing and Application		X	X
***Marketing Workplace Experience**	CTG34	.5		X (MVHS)			X	X		Application		X	X

*Application Level CTE Courses

Business Essentials (.5 credit)

Business Essentials is an introduction core course designed to peak student interest in the fields of Business Management, Marketing, and Finance. Units covered include Management, Finance, Economics/Marketing, Accounting and Corporate Ethics. Upon completion of this course students will have the background knowledge necessary to succeed in a Management, Finance or Marketing Pathway specific course.

Sports & Entertainment Marketing (.5 credit)

Students will learn about the business world using examples from two of the most exciting and competitive businesses in the world: sports and entertainment. They will learn all different aspects of marketing such as product design and pricing strategies, branding and licensing, advertising and sales promotion, as well as possible careers in this area.

Marketing (1 credit)

Marketing focuses on the wide range of factors that influence the successful flow of goods and services from the producer to the consumer. Through a variety of projects, students will come to understand the operations of for profit companies and will have an opportunity to run the school store (DHS), and be able to market school programs and extracurricular events (DHS). Course topics include market research, the purchasing process, distribution systems, inventory control, salesmanship, sales promotions, supply, demand and price and business management.

Marketing Applications (1 credit)

This course includes marketing school activities, and involves discussion related to advertising, branding, graphic design, packaging, promotion, publicity, sponsorship, public relations and sales promotions. Students will be actively engaged in utilizing technology in the design, production and implementation of marketing strategies to market school programs and extra-curricular events. Students at MVHS are required to participate in DECA (course fee).

Marketing Workplace Experience (.5 or 1 credit)

This course can be one or two semesters depending on the length of the internship. Students will seek out this internship, which might combine onsite experiences with in-class experiences and provide students with the opportunity to work on client-based projects or a senior capstone project.

Computer Graphics (1 credit)

Computer Graphics will teach students how to create meaningful, eye-appealing graphics using a variety of strategies and techniques. The Image-editing tools available in Photoshop will give us the ability to retouch, enhance and add special effects. Basic animation will also be introduced.

Web Page Design (1 credit)

Web Page Design teaches students how to create a web site and how to develop web pages. Students will use HTML, Adobe Dreamweaver, Adobe Photoshop, and other Adobe CS4 applications to design creative and attractive products. Topics include, but not limited to, using CSS, tables, links, forms, and navigations bars.

Accounting (1 credit)

This course will provide the introduction of fundamental accounting principles and procedures used in business. Students will understand the principles of debits and credits, journalizing transactions, posting to ledgers, and determining profit or loss. Students will also learn the creation of formal financial statements to be used for the reporting of net income or net loss.

Graphic Design (1 credit)

Graphic Design will focus on creativity and the design process with an emphasis on creative thinking and problem solving. We will create art products such as compositions, branding and logo design, package design, corporate brochures and advertising. We will learn and incorporate the production processes with our projects and know the differences between spot printing and process printing.

Business Communications (.5 credit)

Business Communications will help students to develop an understanding of and appreciation for effective communication in business situations and environments. Emphasis is placed on all phases of communication: speaking, listening, thinking, responding, reading, writing, non-verbal communication, and utilizing technology for communication. Business communication functions, processes, and applications in the context of business may be practiced through problem-based projects and real-world applications.

Programming & Software Development Pathway

Course Title	Course Code	Credit	Weight	College Credit	9	10	11	12	Course Fee	Prerequisite	CTEC	DHS	MVHS
Web Page Design	CTG50A/B	1			X	X	X	X				X	X
AP Computer Science Principles	CTP90A/B	1	FW	X (DHS & CTEC)		X	X	X			X	X	
***Cybersecurity**	CTG92A/B	1					X	X	$20	AP Comp Sci Prin.	X		
***AP Computer Science A**	CTP91A/B	1	FW	X (DHS & CTEC)			X	X		AP Comp Sci Prin.	X		
***Programming & Software Development Project Management**	CTG93A/B	1					X	X		Application Only	X		
*Application Level CTE Courses													

Web Page Design (1 credit)
Web Page Design teaches students how to create a web site and how to develop web pages. Students will use HTML, Adobe Dreamweaver, Adobe Photoshop, and other Adobe CS4 applications to design creative and attractive products. Topics include, but not limited to, using CSS, tables, links, forms, and navigations bars.

Cybersecurity (1 credit)
Cybersecurity is a problem-based course that gives students a broad exposure to the many aspects of digital and information security, while encouraging socially responsible choices and ethical behavior. It inspires algorithmic thinking, computational thinking, and especially, “outside-the-box” thinking. Students explore the many educational and career paths available to cybersecurity experts, as well as other careers that comprise the field of information security.

Programming & Software Development Project Management (1 credit)
Advanced level application course that incorporates experienced based learning including project management, client-based projects, a senior capstone project, or Internships supported by classroom attendance and discussion, within their area of interest/study.

AP Computer Science Principles (1 credit)
Students will be introduced to the central ideas of computer science, inviting students to develop their computational thinking vital for success across multiple disciplines. The course is unique in its focus on fostering students to be creative and encouraging students to apply creative processes when developing computational artifacts. Students will also develop effective communication and collaboration skills, working individually and collaboratively to solve problems while discussing and writing about the importance of these problems and their impact on the local and global society.

AP Computer Science A (1 credit)
The course introduces students to computer science with fundamental topics that include problem solving, design strategies, and methodologies, organization of data (i.e., data structures), approaches to processing data (algorithms), analysis of potential solutions and the ethical and social implications of computing. The course emphasizes both object-oriented and imperative problem solving and design using Java language. These techniques represent proven approaches for developing solutions that can scale up from small, simple problems to large, complex problems.

Teacher/Training Pathway

Course Title	Course Code	Credit	Weight	College Credit	9	10	11	12	Course Fee	Prerequisite	CTEC	DHS	MVHS
Career and Life Planning	CTG35	0.5			X	X	X	X				X	X
Human Growth and Development	CTG36	0.5			X	X	X	X				X	X
Family Studies	CTG37	0.5			X	X	X	X				X	X
Teaching as a Career	CTG45A/B	1		X		X	X	X		Career and Life Planning, or Human Growth and Development and application		X	X
***Teacher Internship**	CTG46A/B	1		X			X	X		Teaching as a Career		X	X
*Application Level CTE Course													

Career & Life Planning (.5 credit)
Students will explore skills and strategies helpful in being more focused and productive individuals. This course emphasizes goal setting, career path decision, educational opportunities, employability skills, stress, and time management. Students will participate in mock interviews, educational planning, and job shadow experiences. Students will need to provide transportation to their desired job shadow.

Family Studies (.5 credit)
This course emphasizes building and maintaining healthy interpersonal relationships among family members and others in society. Topics include (but are not limited to) communication, dating, marriage, responsible parenting, and family units. Students will be introduced to the Empathy Belly during this course.

Teacher Internship (1 credit)
Students examine and practice teaching strategies, classroom management, professionalism, and lesson development by participating in a teaching internship. Students will be paired with a master teacher at their desired grade level in the district during the duration of the course. Students will need to provide transportation to their internship.

Human Growth & Development (.5 credit)
This course provides students with knowledge about the physical, mental, emotional, and social growth and development of humans from conception to old age, with a special emphasis on birth through school age. Students will participate in a project with the “Baby, Think It Over."

Teaching as a Career (1 credit)
Teaching as a Career introduces students to the principles teaching and learning by understanding the roles and responsibilities of educators. Students will observe and model techniques of imparting knowledge and information. These course exposes students to classroom management, student behavior, school leadership, and assessment strategies, by pairing students with a master teacher in the district. Students will need to provide transportation to their teaching placements.

Web & Digital Communications Pathway

Course Title	Course Code	Credit	Weight	9	10	11	12	Course Fee	Prerequisite	CTEC	DHS	MVHS
Web Page Design	CTG50A/B	1		X	X	X	X				X	X
Computer Graphics	CTG54A/B	1		X	X	X	X			X	X	X
Animation	CTG51A/B	1			X	X	X		Computer Graphics or concurrent enrollment	X	X	
Graphic Design	CTG52A/B	1			X	X	X	$40		X		X
Emerging Technologies	CTG55A/B	1				X	X	$40		X		
***Game Design**	CTG56A/B	1				X	X		Animation	X	X	
***Web & Digital Communications Project Management**	CTG58A/B	1				X	X		Application	X	X	X
*Application Level CTE Courses												

Web Page Design (1 credit)
Web Page Design teaches students how to create a web site and how to develop web pages. Students will use HTML, Adobe Dreamweaver, Adobe Photoshop, and other Adobe CS4 applications to design creative and attractive products. Topics include, but not limited to, using CSS, tables, links, forms, and navigations bars.

Graphic Design (1 credit)
Graphic Design emphasizes design elements and principles in the purposeful arrangement of images to communicate a message. The focus is on creating art products such as advertisements, product design and identity symbols.

Emerging Technologies (1 credit)
Students will be exposed to the emerging technology of 3D rendering software and printing. The course will be project-based and students will create objects and artworks using unfired clay and metals. The course will expose students to topics in the fields of engineering, programming, electronics, mold-making, manufacturing, metalsmithing, and art.

Web & Digital Communications Project Management (1 credit)
This course provides students with information and skills necessary for success in managing projects and operating logistical ventures in technology, business, and industry. Students may work on client-based projects, a senior capstone project, and/or seek out an internship as a part of this work-based learning course.

Computer Graphics (1 credit)
Computer Graphics will teach students how to create meaningful, eye-appealing graphics using a variety of strategies and techniques. The Image-editing tools available in Photoshop will give us the ability to retouch, enhance and add special effects. Basic animation will also be introduced.

Animation (1 credit)
In this project-based course, students will explore Flash's drawing, animation and audio capabilities and build interactive content that can be shared over the Internet. Students will learn how to create interesting motion graphics. They will learn about the aesthetics of design, motion and sound. By constructing user interactive projects, students will be challenged to think in a non-linear way. Students will learn to use a combination of logical reasoning, critical thinking and artistic creativity.

Game Design (1 credit)
A practical introduction to game design and game prototyping, design iteration, and user testing. Students will learn how to use popular game development software to create engaging, interactive games in a variety of styles. Challenging hands-on projects that teach all elements of successful game development will be provided.

Cedar Trails Exploration Center (CTEC) – Juniors & Seniors – AM/PM Blocks – 2 block minimum

CTEC CAPS provides more Career & Technical Education opportunities for USD 232 students along with collaboration among strands while experiencing a CAPS Network program. CAPS has five Core Values which drive CTEC:

1. **Profession-Based Learning** – Instructors develop real-world, project-based learning strategies through collaborations with business and community partners. These interactions enhance the learning experience, preparing students for college and career.
2. **Professional Skills Development** – Unique experiences allow students to cultivate transformative professional skills such as understanding expectations, time management and other essential business values. These skills are critical to providing students a competitive advantage in their post-secondary education and professional careers.
3. **Self-Discovery and Exploration** – Students realize their strengths and passions by exploring and experiencing potential professions. This allows them to make informed decisions about their future, while learning to exhibit leadership.
4. **Entrepreneurial Mindset** – Instructors create an environment where creative thinking and problem solving is encouraged. An innovative culture is key to fostering entrepreneurial learning and design thinking.
5. **Responsiveness** – CAPS supports high-skill, high-demand careers through ongoing innovation in curriculum development, programs and services based on local business and community needs.

CTEC CAPS has three strands: Bioscience, Design, and Emerging Technologies

Bioscience

The Bioscience Strand is science in action. It involves the use of cellular and molecular processes to solve modern health problems or make useful products. It is also an avenue for learning more about topics such as clinical medicine, biochemistry, physiology, forensic science, biomedical engineering, and/or public health. Many career opportunities await in the area of Bioscience!

Design

The Design Strand involves the visual aesthetics of multimedia including still and motion graphics, animation and game design. It is artistic visual communication. All design experiences assist with future careers in design, marketing, production, branding, web development, game development, and user-centric design.

Emerging Technologies

The Emerging Technologies Strand is a convergence of electronics, robotics, computer science, engineering and manufacturing. Future careers are still "emerging" but could include: programming, robotics, cybersecurity, automated systems, fabrication, production, and all facets of engineering.

CTEC CAPS is an application only program. Please see your counselor to obtain an application or usd232.org/ctec

Bioscience

Enrolling in the Bioscience Strand? FOLLOW THESE CTEC STEPS…

CTEC CAPS
Cedar Trails Exploration Center

CTEC Bioscience Strand NOTE: To attend CTEC, you must enroll in a total of 2 full credits per year. The following courses are for upperclassmen who have previously taken Biology and Chemistry and whose IPS indicates a career within the bio/life sciences: animal, human, plant. If interested in the medical aspect, please take Anatomy & Physiology at your home high school.

The following are recommendations only. Talk with your counselor to design your path!

STEP 1 = Junior Year **STEP 2 & 3** = Senior Year

STEP 1

Take:

AP Chemistry (1) **OR** Medical Interventions (1)

+

Biotechnical Engineering (1)

STEP 2

Take:

Biomedical Innovation (1)

+

Biochemistry Workplace Experience Capstone (1)

OR

Biomedical Research/Workplace Experience Capstone (1)

(*Choose the appropriate capstone course based on your area of Interest*)

STEP 3

Senior year, create and develop a professional LinkedIn account.

Continue to prepare your professional digital portfolio inside of Xello.

Talk with your counselor about postsecondary opportunities in Life Sciences.

Design

Enrolling in the Design Strand? FOLLOW THESE CTEC STEPS…

CTEC CAPS
Cedar Trails Exploration Center

CTEC Design Strand NOTE: To attend CTEC, you must enroll in a total of 2 full credits per year. The following courses are for upperclassmen who have previously taken CTE courses or electives related to Design, and whose IPS indicates a career within Design (digital).

The following are recommendations only. Talk with your counselor to design your path!

STEP 1 = Junior Year **STEP 2 & 3** = Senior Year

STEP 1

Choose **one** path below:
NOTE: Computer Graphics (1) is the pre-req for Animation.

Graphic Design Fundamentals (.5) +
Principles of Illustration (.5)
+
Graphic Design (1) - spring (double block)

OR

Animation (1) – fall (double block)
+
Game Design (1) – spring (double block)

STEP 2

Continue with your path and choose **one** block below:

Take: Choose a course from this or another Strand (totaling 1 credit)
+
Graphic Design Workplace Experience Capstone Course (1 or 2)

OR

Take: Choose a course from this or another Strand (totaling 1 credit)
+
Web & Digital Project Management Capstone Course (1 or 2)

STEP 3

Senior year, create and develop a professional LinkedIn account. Prepare a portfolio of professional projects that can be shared with business/industry.

Continue to prepare your professional digital portfolio inside of Xello.

Talk with your counselor about postsecondary opportunities in Design.

Emerging Technologies

Enrolling in the Emerging Technologies Strand? FOLLOW THESE CTEC STEPS…

CTEC CAPS
Cedar Trails Exploration Center

STEP 1 = Junior Year **STEP 2 & 3** = Senior Year

CTEC Emerging Technologies Strand NOTE: To attend CTEC, you must enroll in a total of 2 full credits per year. The following courses are for upperclassmen who have previously taken STEM-related courses and whose IPS indicates a career within engineering, robotics, manufacturing, or programming.

The following are recommendations only. Talk with your counselor to design your path!

STEP 1

Take: Robotics (1) **OR** Emerging Technologies (1) **+** Choose **one** path below:

AP Computer Science Principles (1)	Digital Electronics (DE) (1) **OR** Computer Integrated Manufacturing (CIM) (1)	Intro to Welding (.5) **+** Production Blueprint Reading (.5)

STEP 2

Continue with your path and choose **one** block below:

AP Computer Science A (1) **+** Cybersecurity (1) **OR** Robotics Capstone (1) **OR** Programming Project Management Capstone (1)	DE (1) **OR** CIM (1) **+** Engineering Design & Development (1) **OR** Robotics Capstone (1) **OR** Engineering Workplace Experience Capstone (1)	Production Methods I (1) **+** Robotics Capstone (1) **OR** Research & Design for Manufacturing Capstone (1) **OR** Production Methods II (1) **+** Research & Design for Manufacturing Capstone (1)

STEP 3

Senior year, create and develop a professional LinkedIn account.

Continue to prepare your professional digital portfolio inside of Xello.

Talk with your counselor about postsecondary opportunities in:
Robotics, Programming, Engineering and Manufacturing.

Bioscience

Course Explanations & Enrollment Tips – Bioscience

All courses in this Strand are connected by being Life Sciences. All support foundational skills needed for future careers in all of the biosciences: human, plant or animal. Future careers could be: Clinical research, medical science, environmental science, animal science, forensic science, pharmaceutical, biostatistics, microbiology, bioinformatics, quality control, biomanufacturing, and more!

Bioscience Strand at CTEC CAPS								
Course Title	**Course Code**	**Credit**	**Weight**	**College Credit**	**11**	**12**	**Course Fee**	**Prerequisite**
Medical Interventions	CTC77A/B	1			X	X	$10	Chemistry
AP Chemistry	SCP20A/B	1	FW	X	X	X	$10	Chemistry or Honors Chemistry
***Biotechnical Engineering**	CTC71A/B	1			X	X	$10	Biology/AP Biology/Chemistry or concurrent enrollment
***Biomedical Innovation**	CTC74A/B	1			X	X	$10	Medical Interventions
***Biochemistry Workplace Experience (Capstone Course)**	CTC75A/B	1			X	X	None	Application
***Biomedical Research / Workplace Experience (Capstone Course)**	CTC76A/B	1			X	X	None	Application
*Application Level CTE Courses								

STEP to finding your path… *CTEC requires 2 full blocks/credits per year*
Notice the left-hand side is chemical, lab and engineering focused,
while the right-hand side is medical focused.

AP Chemistry (1 credit)
This rigorous course is intended to prepare students for the AP Chemistry Exam. AP Chemistry topics covered include atomic theory and structure and chemical bonding, kinetics, equilibrium, and thermodynamics. AP Chemistry labs are equivalent to those typically found in college level chemistry courses. The class is designed to provide students with a solid foundation in chemical knowledge and principles.

Biotechnical Engineering (1 credit)
Excellent course for those interested in pursuing a future career in BioTech/BioChem/BioMed. Biotechnical Engineering enables students to develop and expand their knowledge and skills in biology, physics, technology and mathematics. Course content draws upon diverse fields such as biomedical engineering, bimolecular genetics, bioprocess engineering, or environmental engineering. Students may engage in project-based learning and problems related to biomechanics, cardiovascular engineering, genetic engineering, tissue engineering, biomedical devices, human interfaces, bioprocesses, forensics, and bioethics.

Medical Interventions (1 credit)
Medical Interventions allows students to investigate the variety of interventions involved in the prevention, diagnosis, and treatment of disease. This course will explore how to prevent and fight infection, how to screen and evaluate the code in our DNA, how to prevent, diagnose, and treat cancer, and how to prevail when the organs of the body begin to fail. Through these scenarios, students will be exposed to the wide range of interventions related to immunology, surgery, genetics, pharmacology, medical devices, and diagnostics. Students practice problem solving with structured activities and progress to open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills. Students should take this course prior to taking Biomedical Innovation.

Biomedical Innovation (1 credit)
Excellent course for those interested in pursuing a future career in the area of BioMed/BioChem/BioTech. This is a Project Lead the Way course. Please take Medical Interventions prior to taking this course. In this research course, students will apply their knowledge and skills to answer questions or solve problems related to the biosciences. Students design innovative solutions for the health challenges of the 21st century (such as the cure for Cancer, etc.) by addressing topics such as clinical medicine, biochemistry, physiology, biomedical engineering, and/or public health. They may have the opportunity to work on an independent project and may work with a mentor or advisor from industry.

Biochemistry Workplace Experience Capstone Course (1 credit) – Application Only
Excellent course for those interested in pursuing a future career in **BioTech/BioChem**.
This workplace experience course is a Career & Technical Education (CTE) elective course, which might combine onsite experiences with in-class experiences and provide students with the opportunity to work on client-based projects or a senior capstone project.

Biomedical Research Workplace Experience Capstone Course (1 credit) – Application Only
Excellent course for those interested in pursuing a future career in the area of **BioMed**.
Advanced level application course that incorporates experienced based learning including client-based projects, a senior capstone project, or Internships supported by classroom research within their area of interest/study.

Design

Course Explanations & Enrollment Tips - Design

All courses in this Strand are connected through digital design and artistic communication. All support foundational skills needed for future careers in all areas of still or motion graphics. Future careers could be: graphic designer, web/email/social media marketer, animation designer, visual designer, digital designer, production/manufacturing artist, UX designer, UI designer, IxD designer, brand specialist, web designer, and more!

Design Strand at CTEC CAPS								
Course Title	**Course Code**	**Credit**	**Weight**	**College Credit**	**11**	**12**	**Course Fee**	**Prerequisite**
Graphic Design Fundamentals	CTC04	.5			X	X	$20	
Principles of Illustration	CTC02	.5			X	X	$20	
Computer Graphics	CTC54A/B	1			X	X	None	
Graphic Design	CTC52A/B	1			X	X	$40	Graphic Design Fundamentals + Principles of Illustration
Animation	CTC51A/B	1			X	X	None	Computer Graphics or concurrent enrollment
***Game Design**	CTC56A/B	1			X	X	None	Computer Graphics and Application
***Graphic Design Workplace Experience (Capstone Course)**	CTC01A/B	1 or 2			X	X	$40	Application
***Web & Digital Communications Project Management (Capstone Course)**	CTC58A/B	1 or 2			X	X	None	Application
*Application Level CTE Courses								

STEP to finding your path… *CTEC requires 2 full blocks/credits per year*
Choose your path from the following design courses…

Graphic Design Fundamentals (.5 credit)
This course serves as an introduction class to graphic design and pairs perfectly with Principles of Illustration. Graphic Design Fundamentals provides a basic understanding of the graphic design process. Topics include analyzing the design elements and principles, exploring industry tools, software and equipment and learning composition techniques to develop a quality product.

Computer Graphics (1 credit)
Computer Graphics will teach students how to create meaningful, eye-appealing graphics using a variety of strategies and techniques. The Image-editing tools available in Photoshop will give us the ability to retouch, enhance and add special effects. Basic animation will also be introduced. Great course to take prior to enrolling in Animation!

Principles of Illustration (.5 credit)
This course pairs perfectly with Graphic Design Fundamentals!
Principles of Illustration explores a variety of media, tools and supports as a means to communicate ideas. Topics include an understanding of illustration as applicable to careers in graphic design, animation, apparel/textile design, industrial design, web design, architecture, interior design and fine arts. Techniques in traditional and digital illustration applications will be explored as directly linked to social trends.

Graphic Design (1 credit)
Graphic Design emphasizes design elements and principles in the purposeful arrangement of images to communicate a message. The focus is on creating art products such as advertisements, product design and identity symbols. Take Graphic Design Workplace Experience after this course.

Graphic Design Workplace Experience Capstone Course (1 credit) – Application Only
Graphic Design Workplace Experience will take the tools and software that you used in Graphic Design and apply them to "real world" applications. We will meet with clients and gain an understanding of problem solving for real projects considering production processes and client's needs. We will develop a digital portfolio of projects to prepare you for submissions to college and to prepare you for job interviews.

Animation (1 credit) (Fall Double Block)
In this project-based course, students will explore Flash's drawing, animation and audio capabilities and build interactive content that can be shared over the Internet. Students will learn how to create interesting motion graphics. They will learn about the aesthetics of design, motion and sound. By constructing user interactive projects, students will be challenged to think in a non-linear way. Students will learn to use a combination of logical reasoning, critical thinking and artistic creativity. Perfect course to take prior to taking Game Design!

Game Design (1 credit) (Spring Double Block)
A practical introduction to game design and game prototyping, design iteration, and user testing. Students will learn how to use popular game development software to create engaging, interactive games in a variety of styles. Challenging hands-on projects that teach all elements of successful game development will be provided.

Web & Digital Project Management Capstone Course (1 credit) – Application Only
Take this course if interested in continuing to develop your skills in Animation or Game Design. This course provides students with information and skills necessary for success in managing projects and operating logistical ventures in technology, business, and industry. Students may work on client-based projects, a senior capstone project, and/or seek out an internship as a part of this work-based learning course.

Emerging Technologies

Course Explanations & Enrollment Tips – Emerging Technologies

All courses in this Strand are connected through common skills and real-world projects similar to one business containing each as a department.

All support foundational skills needed for future careers in all areas of robotics, computer programming, engineering, and manufacturing.

Future careers could be: robotics engineer, web/software developer, cybersecurity specialist or info security consultant, support engineer, product manager, all facets of engineering, manufacturing production/process development engineer, manufacturing quality assurance, manufacturing logistics and inventory control, manufacturing safety and environmental assurance, manufacturing maintenance/installation/repair, and more!

STEP ONE to finding your path…
CTEC requires 2 full blocks/credits per year
Everyone in this strand will choose **ONE** of the following:

Emerging Technologies (1 credit)
This course is VERY hands-on! Select this course if you want to go into Manufacturing! So many jobs available in Manufacturing right after high school with a certification or minimal college CTE training!
Students will be exposed to the emerging technology of 3D rendering software and printing. The course will be project-based and students will create projects using a variety of materials and technologies. The course will expose students to topics in the fields of engineering, programming, electronics, mold-making, manufacturing, metalsmithing, and design.

Robotics I (1 credit)
This course will prepare and introduce students to the programming and electronics skills needed for robotics. Perfect course to take if you are interested in Computer Science or Engineering, and with a college degree, there are many jobs available!
Students will be introduced to the main types of robotics, plus, students will build, assemble and troubleshoot robotic devices/systems while constructing and verifying circuits. This is a project-based course in which students will work on collaborative projects.

Emerging Technologies Strand at CTEC CAPS								
Course Title	**Course Code**	**Credit**	**Weight**	**College Credit**	**11**	**12**	**Course Fee**	**Prerequisite**
Robotics I	CTC66A/B	1			X	X	$20	None
Robotics Capstone	CTC97A/B	1			X	X	$20	Robotics I or Instructor Approval; No concurrent enrollment
Emerging Technologies	CTC55A/B	1			X	X	$40	None
AP Computer Science Principles	CTC90A/B	1	FW		X	X	None	None
Digital Electronics	CTC62A/B	1	FW	X	X	X	$20	Engineering Design (at home high school)
Computer Integrated Manufacturing	CTC63A/B	1			X	X	$20	Robotics or Emerging Technologies or concurrent enrollment
Introduction to Welding	CTC67	.5			X	X	$40	Robotics or Emerging Technologies or concurrent enrollment
Production Blueprint Reading	CTC68	.5			X	X	None	Robotics or Emerging Technologies or concurrent enrollment
***AP Computer Science A**	CTC90-91A/B	1	FW	X (DHS & CTEC)	X	X	None	AP Computer Science Principles
***Cybersecurity**	CTC92A/B	1			X	X	$20	AP Computer Science Principles
***Programming & Software Development Project Management (Capstone Course)**	CTC93A/B	1			X	X	None	AP Computer Science A or concurrent enrollment + Application
***Engineering Design & Development**	CTC64A/B	1	FW	X	X	X	$20	Digital Electronics or Computer Integrated Manufacturing or concurrent enrollment
***Engineering Workplace Experience (Capstone Course)**	CTC65A/B	1			X	X	None	Digital Electronics or Computer Integrated Manufacturing or concurrent enrollment + Application
Production Methods I	CTC69A/B	1			X	X	$40	Intro to Welding & Advanced Production Blueprint Reading
***Production Methods II**	CTC96A/B	1			X	X	$40	Production Methods I or concurrent enrollment
***Research & Design for Manufacturing (Capstone Course)**	CTC72A/B	.5 or 1			X	X	$20	Mass Production + Application
*Application Level CTE Courses								

TO FINSH STEP ONE…
CHOOSE A PATH:
Manufacturing, Programming or Engineering (see next 3 pages)

Interested in MANUFACTURING?
CTEC requires 2 full blocks/credits per year
Next step after taking/enrolling in Emerging Technologies, take these courses:

Production Blueprint Reading (.5 credit)
This course is meant to be taken at the same time as Introduction to Welding.
A technical level course designed to develop advanced technical communication skills used to interpret manufacturing production drawings as related to manufacturing occupations including blueprints, schematics, and other trade prints.

Introduction to Welding (.5 credit)
This course is meant to be taken at the same time as Production Blueprint Reading.
An introductory level course designed to instruct students in basic welding skills. Student will complete OSHA 10-Hour General Industry (Manufacturing) Certification.

MANUFACTURING – Last Step (typically senior year)
CTEC requires 2 full blocks/credits per year
Next step after taking/enrolling in Intro to Welding & Ad. Pro. Blueprint Reading:

Production Methods I (1 credit)
This course builds on the skills learned in Welding and Blueprint Reading. This is a hands-on fabrication course!
A comprehensive course designed to instruct students in the knowledge and skills common to manufacturing occupations and required for fabricating products using a variety of materials (plastic, metal, composites, etc.)

Production Methods II (1 credit)
An application level course in the Manufacturing Pathway at CTEC which builds on skills learned in Production Methods I where students will learn and apply advanced manufacturing and fabrication skills using current manufacturing technologies.

Research & Design for Manufacturing Capstone Course (1 credit) – Application Only
Take this course along with Production Methods or Robotics Capstone.
This is an advanced level application course that incorporates experienced based learning including client-based projects, a senior capstone project, or Internships supported by classroom attendance and discussion, within their area of interest/study.

Robotics Capstone (1 credit)
This course is designed to be taken after Robotics I offered at CTEC. Students will build on the knowledge gained during the first year of Robotics by working with a team of their peers to compete in several area robotics competitions.

Interested in PROGRAMMING?
CTEC requires 2 full blocks/credits per year
Next step after taking/enrolling in Robotics:

AP Computer Science Principles (1 credit)
Students will be introduced to the central ideas of computer science, inviting students to develop their computational thinking vital for success across multiple disciplines. The course is unique in its focus on fostering students to be creative and encouraging students to apply creative processes when developing computational artifacts. Students will also develop effective communication and collaboration skills, working individually and collaboratively to solve problems while discussing and writing about the importance of these problems and their impact on the local and global society.

PROGRAMMING – Last Step (typically senior year)
CTEC requires 2 full blocks/credits per year
Next step after taking/enrolling in AP Computer Science Principles.
Choose **TWO** of the following courses:

AP Computer Science A (1 credit)
The course introduces students to computer science with fundamental topics that include problem solving, design strategies, and methodologies, organization of data (i.e., data structures), approaches to processing data (algorithms), analysis of potential solutions and the ethical and social implications of computing. The course emphasizes both object-oriented and imperative problem solving and design using Java language. These techniques represent proven approaches for developing solutions that can scale up from small, simple problems to large, complex problems.

Cybersecurity (1 credit)
Cybersecurity is a problem-based course that gives students a broad exposure to the many aspects of digital and information security, while encouraging socially responsible choices and ethical behavior. It inspires algorithmic thinking, computational thinking, and especially, “outside-the-box” thinking. Students explore the many educational and career paths available to cybersecurity experts, as well as other careers that comprise the field of information security.

Programming Project Management Capstone Course (1 credit) – Application Only
Advanced level application course that incorporates experienced based learning including project management, client-based projects, a senior capstone project, or Internships supported by classroom attendance and discussion, within their area of interest/study.

Interested in ENGINEERING?
CTEC requires 2 full blocks/credits per year
Next step after taking/enrolling in Robotics.
Choose **ONE** of the following:

Digital Electronics (DE) (1 credit)
A rigorous college-credit course that uses computer simulations to learn about the logic of electronics as they design, test, and construct circuits and devices. Students design circuits to solve open-ended problems, assemble their solutions, and troubleshoot them as necessary. Students will use mathematic theorems to perform Boolean algebraic functions to design complex logic circuits.

Computer Integrated Manufacturing (CIM) (1 credit)
Computer Integrated Manufacturing courses involve the study of robotics and automation. Building on computer solid modeling skills, students may use computer numerical control (CNC) equipment to produce actual models of their three-dimensional designs. Course topics may also include fundamental concepts of robotics, automated manufacturing, and design analysis.

ENGINEERING – Last Step
CTEC requires 2 full blocks/credits per year
Next step after taking/enrolling in either DE or CIM.
Choose **TWO** of the following:

Digital Electronics (DE) (1 credit)
A rigorous college-credit course that uses computer simulations to learn about the logic of electronics as they design, test, and construct circuits and devices. Students design circuits to solve open-ended problems, assemble their solutions, and troubleshoot them as necessary. Students will use mathematic theorems to perform Boolean algebraic functions to design complex logic circuits.

Computer Integrated Manufacturing (CIM) (1 credit)
Computer Integrated Manufacturing courses involve the study of robotics and automation. Building on computer solid modeling skills, students may use computer numerical control (CNC) equipment to produce actual models of their three-dimensional designs. Course topics may also include fundamental concepts of robotics, automated manufacturing, and design analysis.

Engineering Design & Development (1 credit)
Engineering Design & Development (EDD) is a capstone course in the PLTW high school engineering program. It is an engineering research course in which students work in teams to design and develop an original solution to a valid open-ended technical problem by applying the engineering design process.

Engineering Workplace Experience Capstone Course (.5 or 1 credit) – Application Only
This course can be one or two semesters depending on the length of the internship. This course might combine onsite experiences with in-class experiences and provide students with the opportunity to work on client-based projects or a senior capstone project.

Robotics Capstone (1 credit)
This course is designed to be taken after Robotics I offered at CTEC. Students will build on the knowledge gained during the first year of Robotics by working with a team of their peers to compete in several area robotics competitions.

Eudora/De Soto Technical Education Center (EDTEC)

Program fees apply. Payable to Eudora School District.

Course Title	Course Code	Credit	Year	11	12	Prerequisite
Floriculture & Greenhouse Management	VE907A/B	1	1	X	X	Application
Animal Science	VE901A/B	1	1	X	X	Application
***Certified Nursing Assistant CNA**	VE604	.5	1	X	X	Application
First Aid / CPR	VE605	.5	1	X	X	Application
Medical Terminology	VE602A/B	.5	1	X	X	Application
Health Care Research	VE606	.5	1	X	X	Application
Medical Interventions	VE607	1	2		X	Application + Year one courses
***Health Careers OJT**	VE613A/B	1	2		X	Application + Year one courses
***Topics in Health Science**	VE612A/B	1	2		X	Application + Year one courses
Auto Collision I	VE300A/B	1	1	X	X	Application
Auto Refinishing I	VE301A/B	1	1	X	X	Application
***Auto Collision II**	VE310A/B	1	2		X	Application + Year one courses
***Auto Refinishing II**	VE400	1	2		X	Application + Year one courses
***Trends in Transportation**	VE402	.5	2		X	Application + Year one courses
Culinary Art I	VE500A/B	1	1	X	X	Application
Culinary Essentials	VE501	.5	1	X	X	Application
Event Planning & Mgt.	VE502	.5	1	X	X	Application
Culinary Arts II	VE510	.5	2		X	Application + Year one courses
***Culinary Applications**	VE511A/B	1	2		X	Application + Year one courses
Foundations of Travel & Tourism	VE512	.5	2		X	Application + Year one courses
*Application Level CTE Courses						

Animal & Plant Science EDTEC Program – Course Block

Fees: approximately $50/year

Floriculture & Greenhouse Management (1 credit)

Floriculture & Greenhouse Management is an applied-knowledge course designed to prepare students to manage greenhouse operations. This course covers principles of greenhouse structures, plant health and growth, growing media, greenhouse crop selection and propagation, and management techniques. Upon completion of this course, proficient students will be equipped with the technical knowledge and skills needed to prepare for further education and careers in horticulture production.

Animal Science (1 credit)

Animal Science investigates information about the causes, diagnosis, and the treatment of diseases and injuries of animals, typically emphasizing domestic and farm animals. Course topics focus on anatomy and physiology, nutrition behavior, and reproduction, but also include other areas of study as appropriate.

Health Science EDTEC Program – Year One Course Block

Fees: approximately $100/year

Medical Terminology (.5 credit)

Medical Terminology students will learn how to identify medical terms by analyzing their components. This course emphasizes defining medical prefixes, root words, suffixes, and abbreviations. A primary focus includes an emphasis in developing both oral and written skills in the language used to communicate within health

Health Care Research (.5 credit)

This course examines particular topics in health careers targeted to one of the five paths within the Health Science career cluster. These clusters include: Therapeutic, Diagnostic, Health Informatics, Support Services and Biotechnology. Students will be allowed to develop individual plans of study about specific health careers where they have an interest.

Certified Nursing Assistant (CNA) (.5 credit)

The CNA course is an introduction to basic nursing care skills and concepts necessary to prepare the student to function as a nurse aide in a long-term care facility. Upon successful completion of the state nurse aid certification test, the student will receive a certificate and be able to work as a CNA.

First Aid / CPR (.5 credit)

A technical level course designed to instruct students in the requirements and skills to obtain national certifications for First Aid/CPR.

Health Science EDTEC Program – Year Two Course Block

Fees: approximately $100/year

Choice: 2nd year students can choose two OJT course sessions and not take Medical Interventions course with instructor approval;
***OR** 2nd year students can choose zero OJT course sessions and take Topics in Health Science for 2 semesters.*

Medical Interventions (1 credit)

Students investigate how to prevent, diagnose, and treat disease. Students explore how to detect and fight infection; screen and evaluate the code in human DNA; evaluate cancer treatment options; and prevail when the organs of the body begin to fail. Through real-world cases, students are exposed to a range of interventions related to immunology, surgery, genetics,

Topics in Health Science (1 credit)

Topics in Health Science examines particular topics in health science other than those taught in the core sequence of courses. Students will be allowed to develop individual plans of study about specific health careers where they have an interest. Students will research a topic in an in-depth manner, write a research paper, and complete a class presentation, a full period in length, about their topic of choice.

Health Careers OJT (1 credit)

Health Careers OJT is a work experience course intended to provide a rotational clinical/shadowing experience for the students. Student goals are set cooperatively with the student, parents, teacher, and employers where applicable. The work experience may be paid or unpaid.

Restaurant & Event Management (Culinary Arts) EDTEC Program – Year One Course Block

Fees: approximately $130/year

Culinary Arts I (1 credit)

Culinary Arts I focuses upon skills recognized as important to the field of culinary arts. Topics include plating, garnishes, soups, sauces, and main dish presentation. Bakery and desserts will be introduced, but not the main focus of this course. Catering experiences will be included as well as observations of personnel already in the field. Significant time will be devoted to skill development necessary for food production or a culinary kitchen.

Event Planning & Management (.5 credit)

Event Planning and Management provides students with the knowledge and skills relate to the even planning and implementation process. It will include establishing client relations, the importance of communication, planning process, resource management, quality service, and staffing issues.

Culinary Essentials (.5 credit)

Culinary Essentials is a comprehensive course providing students with knowledge and skills related to commercial and institutional food service establishments. Course topics include sanitation and safety procedures, nutrition and dietary guidelines, food preparation and production, as well as meal planning & presentation. It may also include both “back-of-the-house” and “front- of-the-house” experiences, and may therefore cover reservation systems, customer service, and restaurant/business management.

Restaurant & Event Management (Culinary Arts) EDTEC Program – Year Two Course Block
Fees: approximately $130/year

Culinary Applications (1 credit)
Culinary Applications applies the skills needed in the culinary arts profession. It includes the application of skills within a school-based, community-based experience or work-based internship and will cover an introduction of all aspects of an industry. Students enrolled in this course are expected to have mastered skills in the culinary field so that they are able to apply them in authentic experiences following industry standards and regulations. In-house and off-site experiences will be an integral part of this class.

Foundations of Travel & Tourism (.5 credit)
Foundations of Travel & Tourism assists students in charting a career path in one of the world's largest industries: travel and tourism. It will look at the different segments of the tourism industry and explore careers that the industry offers. It looks at the economic impact and the ramifications of development to the economy. Students will also explore emerging trends and the impact of technology.

Culinary Arts II (.5 credit)
Culinary Arts II will focus on the skills required when developing an understanding of the diversity and uniqueness of foods across the globe. Topics may range from specific regions of the United States, to the different cultures and food habits around the world. Particular attention will be made to keep the experiences as real as possible using authentic ingredients, procedures and equipment. An entrepreneurship experience will also be part of this course.

Mobile Equipment Maintenance EDTEC Program – Year One Course Block
Fees: approximately $140/year

Auto Collision I (1 credit)
Auto Collision I is a comprehensive, technical level course designed to instruct students in the knowledge and skills common to the Collision Repair Industry.

Auto Refinishing I (1 credit)
Auto Refinishing I is a comprehensive, technical level course designed to instruct students in the knowledge and skills common to the Auto Refinishing Industry.

Mobile Equipment Maintenance EDTEC Program – Year Two Course Block
Fees: approximately $140/year

Auto Collision II (1 credit)
Auto Collision II is a comprehensive, application level course designed to provide students with the advanced skills needed to perform diagnosis and repair in the Collision Industry.

Trends in Transportation (.5 credit)
An advanced research and application course covering specific topics in transportation.

Auto Refinishing II (1 credit)
Auto Refinishing II is a comprehensive, application level course designed to provide students with the skills needed to perform diagnosis and repair in the Custom Refinishing Industry. This course is a first semester course, one hour in length and is blocked together with another one hour length course, Auto Collision II.

Kansas City Kansas Community College Technical Education Center (KCKCC TEC) – Excel in CTE

Free tuition. Program fees apply for textbooks/supplies. Payable to KCKCC TEC.

KCKCC TEC Excel in CTE Program is open to juniors and seniors as a dual enrollment on the KCKCC TEC campus. To complete the Auto Collision program, students must return to TEC as a full-time postsecondary student to finalize training. The CNA program only requires one year of training. Auto Tech, Diesel Tech, & Welding are 2-year programs. Check with your counselor for details and to apply.

Course Title	Course Code	HS Year Credit	HS Total Credit	College Total Credit	AM 7:30-10:30	PM 11:20-2:15	Prerequisite	Fee (approx.)
Automotive Collision Repair I & II	VEK10A/B (year 1) VEK11A/B (year 2)	4	8	42	1st Year	2nd Year	Application	$75 per course
Automotive Technology I & II	VEK14A/B (year 1) VEK15A/B (year 2)	4	8	48	X	no	Application	$75 per course
Medical Terminology & CNA (SR Only)	VEK18 & VEK19	2	4	5	X	X	Application	$150
Welding I & II	VEK12A/B (year 1) VEK13A/B (year 2)	4	8	40	X	X	Application	$75 per course

Automotive Collision Repair I & II (4 credits each year)
This program covers all five areas of the Automotive Service Excellence (ASE) certification in Automotive Collision repair. The latest equipment is used, including the Blackhawk multi-tower P3000 frame alignment system and a Chief E-Z-Liner Frame Machine with Shark Sonic Measuring system and Wheel Alignment system. The program also offers the latest in OEM recommended repair technology using the latest Squeeze Type Resistance Spot Welding. The program has two of the latest technology Global Paint booths with Axalta and PPG solvent and waterborne paint systems. Students will have the opportunity to earn I-CAR (Inter-Industry Conference on Automotive Collision Repair) certificates in the two areas of Paint and Refinishing and Non-Structural Repair, along with the opportunity to earn welding certifications in collision repair steel and aluminum.

Medical Terminology & CNA (2 credits each course)
Seniors Only
Medical Terminology students will learn how to identify medical terms by analyzing their components. This course emphasizes defining medical prefixes, root words, suffixes, and abbreviations. A primary focus includes an emphasis in developing both oral and written skills in the language used to communicate within health care professions.
CNA is an introduction to basic nursing care skills and concepts necessary to prepare the student to function as a nurse aide in a long-term care facility. Upon successful completion of the state nurse aid certification test, the student will receive a certificate and be able to work as a CNA. Division: Health Professions Contact: CNA@kckcc.edu; Accreditation: Kansas Department of Health and Environment (KDHE).

Automotive Technology I & II (4 credits each year)
Auto Technology is designed to give students the skills to pass the written portion of the Automotive Service Excellence (ASE) certification tests and customized to meet the highest standards of the National Automotive Technicians Educational Foundation (NATEF). TEC is introducing a new AutoLab which includes modules based on simulator panels, real vehicle component trainers and computer-based simulations. Using the modules, students develop both knowledge and the hands-on skills required for working on real vehicles in the workshop area.

Welding I & II (4 credits each year)
This program is designed to teach specific skills in all aspects of the welding trade, including blueprint reading, metallurgy, oxy-acetylene and semi-automatic cutting, brazing, and industry standard welding processes in a standard set of positions. Students learn welding processes to work with cast iron, brass, aluminum, stainless steel and alloy metals. Apprenticeship opportunities with over 10 skilled craft unions are available through the Construction Apprenticeship Tech Prep Consortium for graduates.

Johnson County Community College (JCCC) – Excel in CTE

Free tuition for CTE courses listed here. Program fees apply for textbooks/supplies. Payable to JCCC.

The JCCC Excel in CTE Program is open to juniors and seniors as a dual enrollment on the JCCC campus. Student must provide transportation to/from the college campus. Check with your counselor for details and to apply. ***Most programs require an extra year or two post high school in order to fulfill all credits.***

Course/Program Title	USD 232 Course Code	HS Year Credit	HS Total Credit	College Total Program Credit	AM	PM	Prerequisite	Fee
Automotive Technology I & II (AUTO)	VEJ14A/B(year 1) VEJ15A/B(year 2)	4	8	51	8:00-12:20 M-F	1:00-5:20 M-F	Application	Supplies: Less than $100 Textbooks: Approximately $150 per semester Lab Books: Less than $50
Automation Engineer (AET)	VEJ21-24A/B	2	4	62	TBD	TBD	Application	Supplies: Less than $200 Textbooks: Approximately $150 per semester Lab Books: Less than $50
CNA (in the spring); **Medical Terminology** (online in the fall) *One Year Program*	VEJ19	2.5	2.5	5	7:30-9:00 M-F	11:30-2:30 M-F	Application	Per semester: Supplies: Less than $100 Lab Books: Less than $50
Construction Management (CET)	VEJ25-29A/B	5	10	30	9:00-11:50 M-F	1:00-3:50 M-F	Application	Supplies: Less than $100 Textbooks: Approximately $150 per semester Lab Books: Less than $50
Heating, Ventilation & Air Conditioning (HVAC)	VEJ30-38A/B	5	10	33	9:30-12:30 M-F	1:00-3:50 M-F	Application	Supplies: Less than $200 Textbooks: Approximately $150 per semester Lab Books: Less than $50
Electronics Technology (ELEC)	VEJ39-44A/B	6	12	33	Year One: 9:00-11:50 M-F	Year Two: 1:00-3:50 M-F	Application	Supplies: Less than $200 Textbooks: Approximately $150 per semester Lab Books: Less than $50
Electrical Technology (ELTE)	VEJ45-52A/B	4	8	30	Cohorts: 1 = 8:30-11:20 2 = 12:00-2:50 3 = 3:00-5:50		Application	Supplies: Less than $250 Textbooks: Approximately $150 per semester Lab Books: Less than $50
Plumbing (PLUM)	VEJ53-61A/B	5	10	30	8:00-10:20 M-TH	N/A	Application	Supplies: Less than $100 Textbooks: Approximately $150 per semester Lab Books: Less than $50
Welding I & II (MFAB) *Seniors Only*	VEJ12 VEJ13	4	4	29	8:00-12:50 M-F	12:00-4:50 M-F	Application	Supplies: Purchase PPE $455 Textbooks: Approximately $150 per semester Lab Books: Less than $50

Automotive Technology I & II (AUTO)

Auto Technology I is a comprehensive course/program which consists of Intro to Auto Shop Practices, Brakes I, Brakes II, and Electrical I concurrently. This comprehensive course is NATEF approved and provides students with the basic theories and information needed to develop an understanding of basic shop practices, how to inspect and service drive train components, suspension, steering, and brakes.
Auto Technology II is a comprehensive course which consists of Steering and Suspension I, Alignment Practicum, Engine Performance I, Automotive Engine Repair, and Electrical II concurrently. This comprehensive course is NATEF approved allowing students to explore and develop an understanding in automotive electrical and engine controls.

Medical Terminology & CNA

One Year Program

Medical Terminology (fall) students will learn how to identify medical terms by analyzing their components. This course emphasizes defining medical prefixes, root words, suffixes, and abbreviations. A primary focus includes an emphasis in developing both oral and written skills in the language used to communicate within health care professions.
CNA (spring) provides classroom and clinical instruction for basic care of clients in long-term and acute-care facilities. Students will learn skills for daily hygiene, bedside care, vital-sign measurement, positioning and safe transfer of clients. You will learn about common health problems and chronic illnesses. Clinical practice sessions are conducted in the nursing home setting. This course is offered in a classroom setting as well as non-traditional online. Upon successful completion of the course, students will be scheduled to take the Kansas CNA examination.

Welding I & II – Metal Fabrication (MFAB)
Seniors Only
Welding I is a comprehensive program which consists of Intro to Welding, Various Arc Welding courses, and a Blueprint Reading course concurrently. This program is approved by the American Welding Society (AWS) and provides students with the basic information and hands-on experience needed to develop an understanding of welding practices, which will be required in the field.
Welding II is a comprehensive program which builds upon the information and experience from the Welding I coursework. This program is approved by the American Welding Society (AWS) and provides students with the information and hands-on experience needed to develop an understanding of welding practices, which will be required in the field. Students will earn a Welding and Metal Fabrication Certificate and be job ready upon completion of the program.

Construction Management Certificate - *The JCCC construction management certificate is designed to address the management training needs of supervisors in the construction industry. Necessary management skills include construction methods, safety, estimating and management; personnel supervision; business management; and financial and data management. Construction management practices are directed toward those encountered by small- to medium-sized contractors.*

Construction Methods - This course introduces the student to the terms, methods, procedures, sequences of operation, and types of construction and planning in civil and building construction. This course is typically offered the first half of each semester.

Construction Specifications - Upon successful completion of this course, the student will be able to describe the phases of a project, identify the bidding requirements, explain contractual relationships between parties, categorize the drawings, write specifications, list warranties and explain contract modifications.

Construction Management - This course is intended for students interested in learning management principles for construction projects. Upon successful completion of this course, the student should be able to perform many processes associated with construction projects and complete forms typically used in project management. Topics include contract documents, scheduling, job costs and management issues. Project management software will be used to schedule and track project resources and progress.

Construction Documents - This course covers general documents used before, during, and after construction. Topics include document submittals, procurement, bidding, negotiating, and addenda. Modifications, claims, disputes, and payment are also addressed.

Green Building Fundamentals - This course introduces the student to sustainable design and green building practices used in the construction industry. The goal of the course is to improve the energy and environmental performance of buildings through a better understanding of standard practices used by industry professionals, as well as, to provide students preparation for the Leadership in Energy and Environmental Design (LEED) Professional Accreditation Exam. Course content will focus on sustainable practices as prescribed in the LEED Green Building Rating System.

Automation Engineer Technology (AET) (Industrial Maintenance; Control Systems Technician Certification) - *The JCCC Automation Engineer Technology program prepares individuals to develop, install and maintain automated systems used in an industrial setting. Topics of study include electrical systems, instrumentation and process control, programmable logic controllers (PLCs), fluid power systems, industrial robotics and preventative maintenance. At the end of the program, students will sit for the International Society of Automation (ISA) Control Systems Technician (CST) Associate examination.*

Industrial Maintenance - This is an introductory course that discusses common industrial maintenance topics, such as industrial tools and equipment, mechanical drive systems and maintenance programs. The lab component to this course will expand on concepts taught in lecture by incorporating hands-on projects using common components found in industry.

Industrial Code - This course addresses how to reference and interpret common electrical codes found in an industrial setting. Electrical standards, such as the National Fire Protection Association (NFPA), National Electrical Code (NEC), National Electrical Manufacturers Association (NEMA) and Underwriters Laboratories (UL), will be utilized in this course.

Industrial Fluid Power - This course examines theory, applications and operation of industrial hydraulic and pneumatic systems. The inspection, maintenance and repair of the various components are covered in this course. Interpretation of the various schematic symbols used in hydraulic and pneumatic circuit diagrams will be discussed. 2 hrs. lecture/wk. and 3 hrs. lab/wk.

LAN Cabling and Installation - This course is designed to provide specialized skills for installing and testing local area network cabling and wireless installation. Twisted-pair, coax and fiber cables will be introduced and contrasted based on their characteristics and applications. Laboratory exercises for terminating and testing network cables and installing wireless systems will accompany the lectures. Students will be trained how to use common wiring tools and testing instruments. Methods of documenting LAN systems will also be introduced.

"Electronics" Technology Certificate (ELEC) - *This JCCC certificate is designed to prepare the student for an exciting and well-paying career as an electronics technician by education in the basic information and skills necessary to perform the assigned duties of a technician in a safe and professional manner. Electronics technology plays a vital role in much of modern technology. Electronic technicians must be proficient at installing, maintaining and troubleshooting a wide range of digital and analog systems. Students will work with excellent facilities and some of the latest laboratory equipment. Completers of the certificate will have the opportunity for employment in one of today's most challenging and exciting career fields.*

Introduction to Electronics - This is a beginning course in electronics technology that is appropriate for both electronic majors and other interested students. An overview of basic electronic theory, principles and components is presented. In addition, the laboratory exercises will emphasize the operation and use of the primary pieces of electronic test equipment and the fabrication of selected circuits.

Digital Electronics I - This is a beginning course in which students will study and practice the basic concepts of digital electronics. Topics will include digital number systems, logic gates, logic circuits, flip-flops, digital arithmetic, counters and registers.

DC Circuits - This course covers resistive circuits having DC sources. Analysis topics include Ohm's law, Kirchoff's law, Watt's law, the superposition theorem, Thevenin's theorem and Norton's theorem. The current, voltage and resistance relationships in series, parallel and combination circuits will be studied.

Comp TIA A+ Essentials - Students will gain the knowledge required to assemble components based on customer requirements, and to install, configure and maintain devices for end users. This course also covers the basics of networking and security/forensics, proper and safe diagnosis, and how to resolve and document common hardware issues while applying troubleshooting skills.

Digital Electronics II - Students will continue their study of digital concepts and will learn how to build digital circuitry using digital integrated circuit chips and basic concepts of computer organization. In additional, emphasis will be placed on learning how to troubleshoot digital circuits and digital systems. Each student will build a digital computer through a series of laboratory projects.

AC Circuits - The analysis techniques presented in Electronics I will be applied to complex circuits driven by Alternating Current (AC) and pulsed sources. The responses of the circuits having resistance, impedance, inductive and capacitive reactance will be analyzed. Other topics will include transformers and electronic filters.

Electrical Technology Certificate (ELTE) - *The use of electrical technology in residential, commercial and industrial applications continues to grow rapidly. Electricians install and maintain electrical systems for a variety of purposes, including lighting, appliances, industrial control, security and communications. The JCCC Electrical Technology Certificate is a 30 credit-hour program that is completed in two semesters. Designed to give students the basic skills to gain entry-level employment as a residential or commercial electrician, the curriculum emphasizes hands-on training integrated with knowledge of theory and study of the National Electrical Code. As a requirement for completion, students will sit for their local licensure exam.*

AC/DC Circuits - This is an introductory course that addresses the basics of Direct Current (DC) and Alternating Current (AC) circuits. The lab component to this course will expand on concepts taught in lecture by incorporating hands-on projects using common components found in the electrical industry. Students will gain experience in the process of reading and troubleshooting schematic drawings using electrical measuring equipment.

Print Reading - This course addresses the fundamentals of interpreting construction drawings. Students learn to read specification manuals and prints as applied to electrical installations in residential, commercial and industrial buildings.

National Electrical Code I - This is an introductory course on the use and interpretation of the current National Electrical Code (NEC), chapters 1-4. Students will learn the purpose and history of the code; develop a working knowledge of the code requirements for wiring, protection, materials and equipment; and be able to discern between wiring methods used in different occupancies.

Residential Wiring - This course covers residential wiring methods that include practical application and hands-on experience in implementing the code requirements. Installation rules and circuit designs for switches, receptacles, luminaires and appliances will also be discussed. The student will explore necessary skills to install electrical systems in a residential occupancy, meeting the minimum requirements as set forth in the current National Electrical Code (NEC).

Low Voltage Wiring – This course covers the basic theory, installation standards and code requirements for various low voltage systems and their connecting devices. Discussion of closed circuit television, security, telephone, fire alarm, computer networking and wireless systems will be incorporated with hands-on experience installing and terminating conductors and cables in a lab environment.

Commercial Wiring - This course covers commercial wiring methods that include practical application and hands-on experience in implementing the code requirements. Conduit hand bending techniques, conductor sizing and various wiring methods will also be discussed. The student will explore necessary skills to install electrical systems in a commercial occupancy, meeting the minimum requirements as set forth in the current National Electrical Code (NEC).

National Electrical Code II - This course is a continuation of the National Electrical Code I course on the use and interpretation of the current National Electrical Code (NEC), chapters 5-9. Students will develop a working knowledge of the code requirements for special occupancies, special equipment, special conditions and communication systems, and be able to use the NEC tables to size conduit raceways.

Electrical Certification Review - This course covers the process and requirements for becoming a certified licensed electrician. License levels and permitting, state and local requirements, and best practices for being successful on a licensing examination will be covered.

Heating, Ventilation, & Air Conditioning Technology (HVAC) Certificate – *The JCCC certificate program is designed to prepare HVAC graduates for the HVAC job skills needed to service and maintain heating and air conditioning equipment. Students who elect to complete the certificate learn the theory of operation, how to service, repair and design gas furnaces, central air conditioners, heat pumps, rooftop systems. The instructional format is reinforced by working on actual equipment in the laboratory. By completing this program, it will allow students to seek employment in the HVAC trade.*

HVAC Fundamentals - This is a beginning course in heating, ventilation and air conditioning technology that is appropriate for HVAC students. Upon successful completion of this course, the student should be able to identify the basic components of an air-conditioning system. Topics will include heat laws, refrigerants, oils and refrigeration cycles. In the lab, students will design, assemble and operate a working refrigeration system. Competencies will include brazing, wiring, evacuating and charging a system.

Electrical Fundamentals - This course is in electrical theory and is required for HVAC. Common electrical components found in the HVAC industry are used to develop these skills. Upon successful completion of this course, the student should be able to identify electrical components and their relationships to the various repair and troubleshooting techniques.

Heating System Fundamentals - Upon successful completion of this course, the student should be able to identify all the components and accessories in residential heating systems. Emphasis will be on the electrical diagrams and mechanical principles. Practical instruction in service diagnostic procedures for efficient operation, maintenance and troubleshooting of these systems make up the lab portion of the course.

Sheet Metal Layout and Fabrication - Upon successful completion of this course, the student should be able to identify the components, equipment and operation for sheet metal layout and fabrication. Practice problems are included at the end of each unit in order to provide the student with an opportunity to apply the methods attained by sheet metal layout. Shop facilities are available. The patterns will be fabricated and joined into a line of fittings. This gives the most complete test of pattern accuracy and also provides the experience needed by a competent layout person. The student will be required to provide ANSI Z87 safety glasses and may be expected to provide other basic hand tools and/or equipment.

EPA 608 Refrigerant Management - The student should have a complete understanding and knowledge of the characteristics of several different types of refrigerants and the correct usage. Upon completion of this course, the student should be able to pass the examination set forth by a third-party testing facility.

Load Calculation & Duct Design - Upon successful completion of this course, students will be able to perform a load calculation for residential HVAC applications. The student should be able to determine proper sizing of residential HVAC equipment and ductwork to meet the requirements for high-quality climate control system. The students will use the Air Conditioning Contractors of America (ACCA) Manual J and current industry recognized manufactures data to determine the correct size of the HVAC equipment used in a residential applications.

Cooling Systems - Upon successful completion of this course, the student should be able to identify all the components and accessories and their relationship to the functions of residential and commercial air conditioning and heat pump systems. Topics covered will include air conditioner condensing units, metering devices, evaporation coils and refrigerants.

HVAC Installation and Start-up Procedures - Upon successful completion of this course, the student should be able to identify all the components and accessories and their relationship to the functions of residential and commercial air conditioning and heat pump systems. Topics covered will include air conditioner condensing units, metering devices, evaporation coils and refrigerants.

Advanced Electrical Systems - Upon successful completion of this course, students will be able to understand and apply advanced electrical theory consisting of wiring gas and electric furnaces, air conditioners and heat pumps. This class will develop diagnostic skills associated with common heating and cooling problems found in the HVAC trade. The students will be able to examine advanced electrical wiring diagrams, understand the sequence of operations for the HVAC equipment and conduct troubleshooting methods. Control theory as applied in Direct Digital Control (DDC) HVAC systems will also be examined.

Plumbing Technology Certificate (PLUM) - *The JCCC Plumbing Technology certificate program will provide students with an opportunity to develop marketable skills in the plumbing career field that is very rewarding. The plumbing certificate is a program designed to offer students an opportunity to acquire the fundamental skills and knowledge used in the plumbing trade. The plumbing technology certificate prepares graduates to enter the plumbing industry. The core principles and concepts of the plumbing systems are cornerstones of each course. Classroom instruction and learning theories lead to individual and team building projects. The Occupational Outlook Handbook reports that "job opportunities are expected to be excellent, as demand for skilled pipe layers, pipe fitters, and steamfitters is expected to outpace the supply of worker trained in this craft." Completion of the plumbing certificate program provides students with the educational background and the experiences needed to enter the plumbing career field.*

Introduction to Plumbing Systems - This is an introduction course to the plumbing trade with an emphasis on residential plumbing and installation methods. Students will be instructed on the basic fundamentals of the plumbing trade. This course is designed to provide training in the identification and use of plumbing tools and materials, plumbing print reading, math skills used in the plumbing trade, reading residential plumbing drawings and sketches, perform basic pipe sizing, copper and plastic piping practices, soldering and brazing, cutting and threading carbon steel pipe, joining cast-iron pipe and fittings, making flared and compression joints with copper tubing, PVC and CPVC fittings, fitting and cleanout requirement for DWV piping, and installing natural gas piping systems.

Residential Plumbing - This course introduces students to residential plumbing fixtures, faucets, drain assemblies and appliances. Students will study and practice safe installation applications of basic residential plumbing devices. The items discussed in this course will focus mainly on wood-framed structures such as single and multi-family dwellings along with the different types of materials and tools that are commonly used with these structures. This course is designed to provide an understanding of the plumbing system of a structure including water supply distribution pipes, fixtures and fixture traps, soil, waste and vent pipes, building drains and building sewers, storm water drainage and their devices, appurtenances and connections within the building and outside the building within the property lines.

Print Reading and Estimating - This course explores reading, interpreting, and understanding of construction drawings and developing piping sketches including plan, elevation and isometric views, size drain waste and vent piping. This course was designed for plumbing students who need to develop the ability to interpret trade prints and plan the installation of the required plumbing. The students will be taught the basics of sketching and plumbing designs on construction prints.

Backflow Preventers - This course is designed to provide essential information by blending theoretical and practical aspects of cross-connection controls concerning the theory of backflow prevention and the different types of backflow devices that are used to protect the public water supply. This class will provide the students with an understanding of the principles of backflow prevention, back pressure and back siphonage along with applying the hydraulic principles and laws. Students will be able to recognize the proper backflow prevention assembly application, installation and operation. Students will be able to demonstrate how to properly install and test backflow protection devices.

DWV and Water Distribution - This course introduces students to the layout and design of the drain, waste, and vent (DWV) along with how to size water distribution lines in residential homes. The students will gain practical application of using leveling instruments, shooting elevations, and grading pipes. Students will become familiar with the different types of piping utilized in water and distribution piping. This class will examine sewer treatment procedures and disposal systems; including sewers, septic tanks, calculating tank sizes, maintenance causes, and removal of sewer obstructions.

Installation, Maintenance and Repair - This course is designed to convey solid plumbing practices applicable to all areas of plumbing trade including: materials, installations, maintenance, and repair. Traditional approaches will be examined to ensure that the students receive a broad exposure to all materials and practices of the work place. Emphasis will be placed on advanced concepts of the plumbing industry. This class focuses on the maintenance and repairing of plumbing fixtures and includes the scientific principles of explaining why water supply and sewage systems work and mathematical principles of plumbing. This course will allow students to learn practical application in the lab setting of the theoretical material covered in class in how to diagnose and repair common problems associated with plumbing components and systems.

Commercial Plumbing - This course introduces students to commercial plumbing features. Students will study and practice safe application and installation of basic commercial plumbing devices. This course is designed to provide an understanding of the plumbing system of a commercial structure including water supply distribution pipes; fixtures and fixture traps; soil, waste and vent pipes; building drains and building sewers; storm water drainage; appurtenances and connections within the building and outside the building within the property lines.

Plumbing Code Review - This course is designed to assist students in the understanding and the interpretation of the current International Plumbing Code (IPC) and International Fuel Gas Code (IFGC) and the minimum requirements for plumbing materials and design. These codes are founded upon the basic principles of safety through properly designed systems, acceptable installation standards and appropriately maintained plumbing systems.

Plumbing Internship - Upon successful completion of this course, the student should be able to apply classroom knowledge to an actual work environment. The internship will provide the students with an on-the-job experience under the supervision of industry professionals. The work will be developed in cooperation with area employers, college staff and each student to provide a variety of actual job experiences directly related to the student's career goals in the plumbing field. Minimum 15 hrs. per week on-the-job training.