Switzerland of Ohio Local School District High School Course Catalog

2025-2026 School Year

Board approved on 3/13/2025

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Introduction

This Course Description Guide will give you an idea of the courses offered at the high school level. A student should choose courses based upon his/her needs in the future. **While every attempt will be made to offer each course, not all courses are taught each year because of the lack of requests for some courses or due to the lack of a highly-qualified teacher.**

Although the selection of the proper courses is the student's responsibility, students should seek the advice of counselors, teachers, and parents.

The Switzerland of Ohio Local School District wants to help students make the best choice for them. Parents are requested to become involved in the selection of courses for their children.

Students are to schedule so they have no more than one study hall.

Parents are requested to call the school if they have any questions.

Graduation Requirements

OHIO'S GRADUATION REQUIREMENTS

CLASS OF 2023 AND BEYOND

Ohio's long-term graduation requirements take effect for the class of 2023. For students entering ninth grade on or after July 1, 2019, Ohio's new high school graduation requirements provide more flexibility to choose a graduation pathway that builds on a student's strengths and passions – one that ensures students are ready for their next steps after high school. Students in the classes of 2018 through 2022 may also use these requirements as a pathway to graduation.

As a part of this pathway to graduation, students must show that they have completed all three parts of these requirements.

1. Credit Requirements:

Students must earn a minimum total of 20 credits in specified subjects and take your required tests. Schools can locally require more than 20 credits. Schools are still required to administer all the high school end-of-course assessments. These are: English Language Arts II, Algebra I (or Integrated Math I), Geometry (or Integrated Math II), Biology, American History, and American Government.

2. Competency:

Students can demonstrate competency by earning a passing score on Ohio's high school Algebra I (or Integrated Math I) and English language arts II tests. Students who do not pass the test will be offered additional support and must retake the test at least once. If students have not met the competency score on these tests, there are four additional ways to show competency.

Option 1	Option 2	Option 3	Option 4	Option 5
Algebra I and ELA II	Career Readiness	College Credit Plus	Military Enlistment	ACT or SAT

Refer to the back of this page for a brief discription of each option.

Option 1. To demonstrate competency using Ohio's state tests, students must earn a score of 684 or above on both the Algebra I (or Integrated Math I) and English language arts II end-of-course exams.

Option 2. To demonstrate competency by Career Readiness, students must demonstrate two career-focused activities, at least one must be a foundational option.

- Foundational options: 1. Cumulative score of proficient on 3 or more WebXams. 2. Earn 12-points of industry credential. 3. Complete a registered pre-apprenticeship, an apprenticeship, or show evidence of acceptance into an approved apprenticeship. 4. State-issued license for a practice in a vocation.

- Supporting options: 1. Work-Based Learning. 2. Earn the workforce readiness score on the Workkeys. 3. Earn the OhioMeansJobs Readiness Seal

Option 3. To demonstrate competency through the College Credit Plus Program, students must earn credit in a non-remedial math or English course for the subject area not passed.

Option 4. To demonstrate competency through Military Enlistment, students must provide evidence of enlistment in a branch of the armed forces to demonstrate competency.

Option 5. To demonstrate competency using the ACT or SAT, students must obtain a remediation-free score in the math and/or English subject area on the ACT or SAT. To demonstrate competency in English, a student must be remediation-free in the subjects of English and reading on the ACT or SAT.

3. Readiness:

Students can meet the readiness requirement by earning two diploma seals. In alignment with their graduation plan, students should be choosing seals that align with their goals and interests. These seals give students the chance to demonstrate academic, technical and professional skills and knowledge that align to their passions, interests and their post-high school pathway.

Of the two seals students are required to earn, at least one of the two must be State-Defined. Ohio's 12 diploma seals are:

- OhioMeansJobs Readiness Seal (State-Defined)
- Industry-Recognized Credential Seal (State-Defined)
- College-Ready Seal (State-Defined)
- Military Enlistment Seal (State-Defined)
- Citizenship Seal (State-Defined)
- Science Seal (State-Defined)
- Honors Diploma Seal (State-Defined)
- Seal of Biliteracy (State-Defined)
- Technology Seal (State-Defined)
- Community Service Seal (Locally-Defined)
- Fine and Performing Arts Seal (Locally-Defined)
- Student Engagement Seal (Locally-Defined)

Want to learn more?

Contact your school counselor or visit education.ohio.gov/graduation

Complete Courses

General Course Requirments	Minimum Credits
English Language Arts	4 credits
Health	.5 credit
Mathematics	4 credits
Physical Education	.5 credit
Science	3 credits
Social Studies	3 credits
Electives (must include .5 credit in financial literacy)	5 credits
Fine Arts	1 credit

Mathematics	Students must earn four mathematics units, which must include one unit of Algebra 2 or the equivalent of Algebra 2.
Physical Education	School districts may adopt policies that would exempt students who participate in interscholastic athletics, marching band or cheerleading for two full seasons from the physical education requirement. Students satisfying the physical education waiver must take another course of study of .5 credit.
Science	Science units must include one unit of physical sciences, one unit of life sciences and one unit of advanced study in one or more of the following sciences: chemistry, physics or other physical science; advanced biology or other life science; astronomy, physical geology or other earth or space science.
Social Studies	Must include World History, American History, and American Government.

Course tracking worksheet

REQUIRED CREDITS (21)

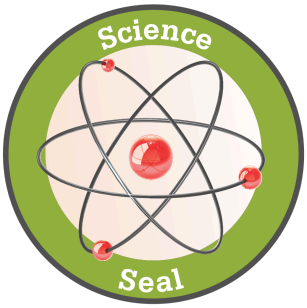
Note: A student must receive instruction in economics and financial literacy (in high school) and complete at least two semesters of fine arts Fine arts may not be required for a student in a career-tech program unless it is a component of local course requirements.*

Subjects	Middle School	9th Grade	10th Grade	11th Grade	12th Grade	Credit Tracker		
						Min Req	Earned	Needed
English						4		
Mathematics						4		
Social Studies						3		
Science						3		
Health						0.5		
Physical Education						0.5		
Economics/Financial Literacy						0.5		
Fine Arts						1*		
Electives						5		
School-Specific Reqs								
Credit Totals								

Graduation Seals

State-Defined Diploma Seal	Requirements
Ohio Means Jobs Readiness Seal 	Meet the requirements and criteria established for the readiness seal, including demonstration of work-readiness and professional competencies.
Industry-Recognized Credential Seal 	Earn a 12-point approved industry-recognized credential or group of credentials totaling 12 points in a single career field.
College-Ready Seal 	Earn remediation-free scores on the ACT or SAT. Visit the Department's website to see current remediation-free scores.

Military Enlistment Seal 	Provide evidence that a student has enlisted in a branch of the U.S. Armed Forces; or Participate in an approved JROTC program.
Citizenship Seal 	A student can: 1. Earn a score of proficient or higher on both the American history and American government end-of-course exams; 2. Earn a score that is at least equivalent to proficient on appropriate Advanced Placement or International Baccalaureate exams; or 3. Earn a final course grade that is equivalent to a "B" or higher in appropriate classes taken through the College Credit Plus program. 4. Earn a final course grade that is equivalent to a "B" or higher in both an American History course and/or an American Government course offered by the student's high school. 5. Earn a score to be determined on the Social Studies Alternate Assessment for Students with the Most Significant Cognitive Disabilities.

Science Seal 	A student can: 1. Earn a score of proficient or higher on the biology end-of-course exam; 2. Earn a score that is at least equivalent to proficient on appropriate Advanced Placement or International Baccalaureate exams; or 3. Earn a final course grade that is equivalent to a "B" or higher in an appropriate class taken through the College Credit Plus program. 4. Earn a final course grade that is equivalent to a "B" or higher in an advanced science course. Advanced Sciences are indicated beside the course description below 5. Earn a score to be determined on the Science Alternate Assessment for Students with the Most Significant Cognitive Disabilities.
Honors Diploma Seal 	Earn one of six Honors Diplomas outlined below: 1. Academic Honors Diploma; 2. International Baccalaureate Honors Diploma; 3. Career-Tech Honors Diploma; 4. STEM Honors Diploma; 5. Arts Honors Diploma; 6. Social Science and Civic Engagement Honors Diploma.
State Seal of Biliteracy 	Meet the requirements and criteria, including proficiency requirements on assessments in a world language and English.

Technology Seal 	A student can: 1. Earn a score that is at least equivalent to proficient on an appropriate Advanced Placement or International Baccalaureate exam; 2. Earn a final course grade that is equivalent to a "B" or higher in an appropriate class taken through the College Credit Plus program; or 3. Complete a course offered through the district or school that meets guidelines developed by the Department. (A district or school is not required to offer a course that meets those guidelines.)

Local-Defined Seal	Requirements
Community Service Seal 	While in high school a student must meet one of the following: 1. Complete 20 hours of community service by the end of senior year 2. Participate in an organized club (i.e. 4-H, Girl Scouts, Boy Scouts, etc.) while in grades 7-12
Fine and Performing Arts Seal 	While in high school a student must meet one of the following: 1. Earn 2 or more credits in a Fine Art with a grade of a C or higher 2. Participate in a district or club/community drama production 3. Participate in dance, cheerleading, band, and/or vocal performances 4. Be identified as Gifted in Visual or Performing Arts

Student Engagement Seal	While in high school a student must meet one of the following: 1. Participate in at least 2 complete athletic seasons of any sport, club sport, band, etc. 2. Participate in any club or student government 3. Participate in a leadership event (HOBY, Regional Scholars, Boy/Girl State, iBelieve or similar approved event) 4. Participate in a Job Shadowing experience in High School 5. Be involved in/with Student Organizations (i.e. SkillsUSA, FFA, etc.)

Honor Roll

The honor roll for all schools of the Switzerland of Ohio Local School District shall be:

Principal's List

A student must receive all A's to be on the principal's list. A student may not be on the principal's list if he/she receives any A-'s.

First Honors

To qualify for First Honors, the student must have a cumulative grade point average of 3.5 on a 4.0 scale. A grade of B- may be included but must be offset by higher grades in other subjects in order to meet the 3.5 average. No student is permitted on the honor roll with a grade below a B-.

Second Honors

To qualify for Second Honors, the student must have a cumulative grade point average of 3.0 on a 4.0 scale. A grade of B- may be included but must be offset by higher grades in other subjects in order to meet the 3.0 average. No student is permitted on the honor roll with a grade below a B-.

SOLSD Grade Letter Value and Grading Scale

LETTER	Value	Range
A	4.00	3.84 - 4.00
A-	3.66	3.51 - 3.83
B+	3.33	3.18 - 3.50
B	3.00	2.84 - 3.17
B-	2.66	2.51 - 2.83
C+	2.33	2.18 - 2.50
C	2.00	1.84 - 2.17
C-	1.66	1.51 - 1.83
D+	1.33	1.18 - 1.50
D	1.00	.84 - 1.17
D-	.66	.51 - .83
F	.0	.0 - .50

Numerical Letter Grade Value	
A	94 - 100
A-	92 - 93
B+	89 - 91
B	85 - 88
B-	83 - 84
C+	80 - 82
C	76 - 79
C-	74 - 75
D+	71 - 73
D	67 - 70
D-	65 - 66
F	0 - 64

The final grade in a particular course may be computed by converting the letter grade to its decimal value (as illustrated on the second chart) in the following manner:

1st-9wks	2nd-9wks	Sem.Exam	3rd-9wks	4th-9wks	Final Exam
A-	B	A	C	B	A
3.66	3.00	4.00	2.00	3.00	4.00
X	X	X	X	X	X
2	2	1	2	2	1
7.32	6.00	4.00	4.00	6.00	4.00

Total = 31.32 or 3.13 B

Honors Diplomas

What is new for students in the class of 2026 and beyond?

For each honors diploma, the goal of the stakeholders was to better align the new honors diplomas to the new high school graduation requirements. As such, changes will be found to better align to key concepts of customization and ability for students to reflect their strengths.

Equal number of requirements for each honors diploma

Addition of state and local seals that align to specific honors diplomas

Additional requirements listed for courses beyond standard graduation requirements

Addition of “Student Strength Replacement” option for all honors diplomas

Addition of “Experiential Learning” option for all honors diplomas

Ohio students have the opportunity to choose to pursue one of six honors diplomas:

1. Academic Honors Diploma
2. International Baccalaureate Honors Diploma (not available in SOLSD)
3. Career Tech Honors Diploma
4. STEM Honors Diploma
5. Arts Honors Diploma*
6. Social Science and Civic Engagement Honors Diploma

**includes dance, drama/theatre, music and visual art.*

High school students can gain state recognition for exceeding Ohio’s graduation requirements through an Academic Honors Diploma. High-level coursework, college and career readiness tests and real-world experiences challenge students.

Students must meet **all but one** of the following criteria. Each of these criteria go beyond the standard requirements for a diploma for the classes of 2023 and beyond. Students must meet general graduation requirements and complete the requirements outlined below to qualify for honors diplomas. Students may replace one requirement of either 4, 5 or 6 with a “Student Strength Demonstration.”

Student Strength Demonstration Replacement

Students can use the Student Strength Demonstration to replace one of either the **ACT/SAT, GPA *or* World Language** requirement for any Honors Diploma. The Student Strength

Demonstration options are listed below. The same options exist for each of the six honors diplomas* but, where relevant, should reflect coursework or experiences relevant to the theme of the Diploma. For example, a student earning the Academic Honors Diploma and using the College Credit Plus option to replace another requirement for the diploma should have College Credit Plus courses relevant to the Academic Honors diploma.

OPTIONS:

College Credit Plus: 12 total College Credit Plus credit hours

Advanced Placement: three courses with score of 3 or higher on AP tests

Career-Technical Assurance Guide (CTAG): 12 total credits

Apprenticeship/Pre-Apprenticeship: Completion or Evidence of Acceptance if required to be older than 18

WorkKeys: Score of 6 or higher on all tests (*void for Career-Tech Honors Diploma)

Armed Services Vocational Battery: Score of 50 or above on the ASVAB

Work-Based Learning: 250 total hours of work-based learning

ACADEMIC HONORS DIPLOMA

Requirements	State Minimum
1 Math	Fourth math must be > Algebra 2
2 Science	One additional unit Advanced Science
3 Social Studies	One additional unit Social Studies
4 World Languages	Three sequential units of one world language, or no less than 2 sequential units of two world languages studied
5 GPA	3.5 on a 4.0 scale
6 ACT/SAT	ACT: Score of 27 or higher, SAT: Score of 1280 or higher
7 Seal Requirement	Earn two additional diploma seals, not including Honors Diploma Seal
8 Experiential Learning	Field Experience, OhioMeansJobs Readiness Seal*, Portfolio or Work-Based Learning

CAREER TECH HONORS DIPLOMA

Requirements	State Minimum
1 Math	Fourth math must be > Algebra 2
2 Career-Tech Coursework	Four units of Career-Tech Courses
3 Career-Tech Proficiency	Earned a cumulative score of proficient or higher on the technical assessments aligned to their program
4 World Languages	Two units of one world language
5 GPA	3.5 on a 4.0 scale
6 ACT/SAT/Workkeys	ACT: Score of 27 or higher, SAT: Score of 1280 or higher Workkeys: Earn a score of six or higher on all three sections of the WorkKeys assessment.
7 Industry-Recognized Seal or Technology Seal	Meet requirements to earn the Industry Recognized Credential Seal or Technology Seal
8 Experiential Learning	Field Experience, OhioMeansJobs Readiness Seal, Portfolio or Work-Based Learning

STEM HONORS DIPLOMA

Requirements	State Minimum
1 Math	Fourth math must be > Algebra 2
2 Science	One additional unit Advanced Science
3 Electives	Two units of additional STEM Courses as electives
4 World Languages	Three sequential units of one world language, or no less than 2 sequential units of two world languages studied
5 GPA	3.5 on a 4.0 scale
6 ACT/SAT	ACT: Score of 27 or higher, SAT: Score of 1280 or higher
7 Industry-Recognized Credential Seal or Fine Arts Seal	Meet requirements to earn the Industry-Recognized Credential Seal or Fine Arts Seal**
8 Experiential Learning	Field Experience, OhioMeansJobs Readiness Seal, Portfolio or Work-Based Learning

ARTS HONORS DIPLOMA

Requirements	State Minimum
1 Math	Fourth math must be > Algebra 2
2 Fine Arts	Four units
3 Electives	Two units of Fine Arts (may overlap with general four units)
4 World Languages	Three sequential units of one world language, or no less than 2 sequential units of two world languages studied
5 GPA	3.5 on a 4.0 scale
6 ACT/SAT	ACT: Score of 27 or higher, SAT: Score of 1280 or higher
7 Fine Arts Seal	Meet local district requirements to earn the Fine Arts Seal
8 Experiential Learning	Field Experience, OhioMeansJobs Readiness Seal, Portfolio or Work-Based Learning

SOCIAL SCIENCE AND CIVIC ENGAGEMENT HONORS DIPLOMA

Requirements	State Minimum
1 Math	Fourth math must be > Algebra 2
2 Social Studies	Two additional units of Social Studies
3 World Languages	Three sequential units of one world language, or no less than 2 sequential units of two world languages studied
4 GPA	3.5 on a 4.0 scale
5 ACT/SAT	ACT: Score of 27 or higher, SAT: Score of 1280 or higher
6 Community Service Seal	Meet local district requirements to earn the Community Service Seal
7 Citizenship Seal	Meet the requirements to earn the Citizenship Seal
8 Experiential Learning	Field Experience, OhioMeansJobs Readiness Seal, Portfolio or Work-Based Learning

Last Day to Change Course Section

The last day to change from one section of a course to another will be three weeks from the start of the semester. Any change after that will be under special circumstances considered by the Principal and School Counselor**.**

Last Day to Drop an Elective Course

The last day to drop an elective course will be one week following the distribution of report cards for the first nine-week grading period. This will be allowed only if there is no more than 1 study hall as a result of this change.

Make Up Credits

All courses that are failed during the freshmen, sophomore, and junior years that are required for graduation, must be made up by May 1st of the senior year. Any required course for graduation that is failed during the senior year cannot be made up to allow the student to graduate with his/her class on the scheduled graduation date. No student will be eligible for credit recovery until the course grade has been finalized.

College Credit Plus (CCP) Courses

CCP replaces Ohio's Post-Secondary Enrollment Options program (PSEO) and all alternative dual enrollment programs previously governed by Ohio Revised Code Chapter 3365. CCP began with the 2015-16 school year.

CCP participation

• All public districts and public institutions of higher education (IHE) must allow college-ready students, grades 7-12, who qualify for college admission to participate. Students are required to demonstrate that they are college ready through ACT scores or other college readiness assessment. Colleges and Universities will set their own requirements. Colleges must have the same requirements for high school students as they do for entry year freshman at the college.

CCP courses must…

• Be the same as those offered on campus (included in IHE course catalog)

• Be nonsectarian and non-remedial

• Apply toward a degree or professional certificate
• Be taught by instructors who meet BOR's academic credential requirements

***** If interested in College Credit Plus, please talk to your School Counselor about how to apply, the required placement test/s, and a course schedule.*****

Laude System

Students will be recognized for achievement based on the board-adopted Laude System.

Philosophy behind the Laude System

* To raise every student to his/her highest potential in the student's area of interest
* To recognize and encourage students to take the appropriate courses that would better prepare the student for the future
* To reward students for taking more rigorous courses and courses that matriculate to a specific career

Process for determining the level of distinction

* The student must have an unweighted 7-semester cumulative GPA of 3.2 and includes all students in the graduating class at both the home school and the career center.
* The student must earn a minimum of 5 honor points for predetermined courses. Students must successfully complete the course to earn honors points.
* A recognition of Summa Cum Laude, Magna Cum Laude, or Cum Laude will be given based on the student's score – see chart for points
* Three graduation speakers will be chosen, The Class President, and two students selected from the pool of Summa Cum Laude who are interested in and agree to speaking at the graduation ceremony. Those names will be placed on a ballot and the high school faculty will vote by secret ballot.
* Final Laude Scores are based on 7th semester Cumulative GPA and 8th semester honor points. If after the 8th semester final calculation, a student's 8th semester cumulative GPA qualifies them for a Laude distinction, the student will receive a certificate after graduation and their Laude Distinction will be noted on their final transcript.

* Honor point courses:
    - All Honor courses
    - All AP courses - Additional .25 Laude point for those who take the National AP Exam and if the student scores a 3 or higher on the AP Exam an additional .25 point will be awarded.
    - All CCP courses
    - Physics
    - Pre-Calculus
    - Calculus
    - Anatomy
    - Chemistry II
    - Foreign Language – 4th level
    - Vocational Courses that articulate to college credit.
    - PLTW courses in which the student earned an Accomplished or higher score on the Biomedical Science EOC, thus making them eligible for college credit.

* Laude points for AP courses:
    - Students who take and complete an AP course in school or online, but do not take the corresponding National AP Exam for that course will receive 1.0 Laude point.
    - Students who take and complete an AP course in school or online and take the corresponding National AP Exam for that course will receive 1.25 Laude points.
    - Students who take the National AP Exam and receive a score of 3 or higher will receive a 1.50 Laude point.

To calculate your Laude Score

1. The student must have a 3.2 unweighted and cumulative GPA or higher at the end of 7 semesters and at least 5 honor points. GPA will not be rounded up.
2. Any student with a GPA lower than 3.2 or less will not have honors points calculated towards a Laude score
3. You must have successfully passed and completed a class to receive the designated honor points.
4. Add the number of honor points you have earned.
5. Multiply your total number of honor points by your unweighted cumulative GPA rounded to the nearest thousandth.

Calculating Your Laude Score Example:

	Total honor points	**8**
	7 semester unweighted GPA	**X 3.83**
X	(rounded to the thousandth)	
	Total Laude Score	**= 30.64**

Summa Cum Laude Distinction, with highest honor/distinction - 50 Laude Score or more

Magna Cum Laude Distinction, with great honors/distinction - 30 – 49.99 Laude Score

Cum Laude, with honor/distinction 19 – 29.99 Laude Score

National Honor Society

Any junior or senior student wanting to qualify for the National Honor Society must meet the following minimum requirements:

1. Must have a 3.5 cumulative unweighted and unrounded GPA after the first semester of the academic year
2. Must have 2 years of a Foreign Language
3. Must have completed Physical Science and Biology
4. Must have 2 years of a college-prep Math
5. Must have all necessary credits in English, History, Health, and PE
6. Must display outstanding qualities in the areas of academics, service, leadership, and character

Please see your school NHS Advisor for additional school NHS chapter requirements .

Kiwanis Scholarships

Please see the 9-12 student handbook or your **School Counselor** for more information concerning the Kiwanis Scholarships.

Advanced Placement (AP) Courses

Advanced Placement (AP) Courses

District policy for enrollment in an AP Course in school or online
Effective beginning the 2019-20 School Year

Requirements to enroll into an AP Course

1) **Enrollment in an AP Course:**
   a) A student may enroll in an AP course in school or online if they have achieved a "B" or higher grade average in a prior corresponding course and
   b) Student has achieved a 4 or higher on the State Test from a corresponding course or
   c) Student has achieved a college readiness score on the ACT/SAT tests.
      i) Examples: If a student is applying for an AP English course, they must have had a "B" average for the English course the year prior
      ii) If a student is applying for an AP History course online, they must have a "B" average in a prior history course.

d) If the student wants to take an AP course online that is not offered in the district (Ex: AP German, AP Psychology, AP Calculus), then the student must have obtained a "B" average in the closest corresponding course as determined by administration.
    i) Examples: If a student wants to take AP German online, they must have a "B" average in the prior year's Language Course.
    ii) If a student wants to take AP Psychology online they must have a "B" average in the prior year's Social Studies Course.
e) A student must also complete the following requirements prior to being placed in the AP course.
    i) Complete a pre-writing sample for AP English, AP History/Government Course.
        (1) Writing sample will be graded on a district created rubric and students must receive a minimum of a 3 or higher for the writing sample. Rubric will be on a 0 to 5 scale.
    ii) Complete a Basic Knowledge sheet for AP Science and Math courses.
        (1) The Basic Knowledge sheet will allow the student to show they have the basic knowledge in order to take the exam. The sheet will be graded and the student must achieve an 80% or higher.
    iii) Writing Samples and Basic Knowledge Sheets will be turned into the AP coordinator once completed. Student names will be removed and a number will be assigned to each student. Teachers from a different building if available will grade the sheets without knowing who the student is. Writing samples and Basic Knowledge sheets should be completed and turned in by using a word processing program.
f) No student can be placed in an AP course without meeting three out of four requirements.
    i) B or higher in previous course or related course
    ii) 4 or higher on a State tests ex: End of course or Next Generation
    iii) College readiness score on the ACT or SAT
    iv) Writing Samples or Basic Knowledge sheet.
g) Special considerations for a student's placement will be allowed with a majority consensus of the AP Coordinator, AP Teacher, Principal, and Superintendent.
h) Acceptance into an online AP Course is also subject to any additional guidelines set forth by the organization offering the course.

2) Credit for the AP course:

a) Laude System:
    i) Students who take and complete an AP course in school or online, but do not take the corresponding National AP Exam for that course will receive 1.0 Laude point.
    ii) Students who take and complete an AP course in school or online and take the corresponding National AP Exam for that course will receive 1.25 Laude points.
    iii) Students who take and receive an AP exam score of 3 or higher will receive a 1.50 Laude point.

3) Adding or Dropping an AP Course:

a) A student can add or drop an AP Course as long as they meet the district policy for doing so.
b) If a student of the district wants to add a course after the school year starts, they will be responsible to understand and complete any prior assignments on his or her own.
c) If a student moves into the district in the school year and wants to take an AP course, they will be informed of the coursework they have missed to better prepare them, but

they will not be held responsible to complete the assignments if the student was not taking an AP course at the previous school.

d) Course work from another AP course in a different district can be given if the student provides proof of work and the district offers that AP course.

SOLSD is working to increase the number of AP courses taught in our high schools. This requires our district to be approved by the College Board for each AP course. Please see your counselor for courses that have been approved for the 2019-20 school year. For more information about AP visit ***apstudent.collegeboard.org***

Honors Course Policy

Honors Biology - District Policy or Prerequisite:

Students who want to enroll in a Biology Honors Course must meet 2 of the following requirements:

- Grade of B or Higher in a prior corresponding science course
- A score of Accelerated (4) or Advance (5) on a State Test the year prior in a Science course
- A Student has achieved a College readiness score on the ACT/SAT tests
- Achieved an 80% or higher practice exam for the honors course for students that do not have a score for an Ohio State tests in Science.
- Special considerations for a student's placement will be allowed with a majority consensus of the Coordinator of Gifted Services, Teacher of the Honors course, Principal, and Superintendent

Students are expected to earn a grade of "C" or higher. If a student is not meeting the minimum expectation within the first four weeks of the grading period, a conference will take place to include the teacher, parent, student, School Counselor and/or principal to develop a plan for success. If the student, teacher, and parent recognize that the level of difficulty is such that the student is not successful, a level change should occur immediately. Should the student remain in the honors course at the end of the grading period and the student is still not performing at the minimum grade requirement, the student will be withdrawn from the honors course and placed in the regular course.

Honors Math - District Policy

Students who want to enroll in a Math Honors Course must meet 2 of the following requirements:

- Grade of B or Higher in a prior corresponding Math course
- A score of Accelerated(4) or Advance(5) on a State Test the year prior in a Math course
- A Student has achieved a College readiness score on the ACT/SAT tests
- Special considerations for a student's placement will be allowed with a majority consensus of the Coordinator of Gifted Services, Teacher of the Honors course, Principal, and Superintendent

Students are expected to earn a grade of "C" or higher. If a student is not meeting the minimum expectation within the first four weeks of the grading period, a conference will take place to include the teacher, parent, student, School Counselor and/or principal to develop a plan for success. If the student, teacher, and parent recognize that the level of difficulty is such that the student is not successful, a level change should occur immediately. Should the student remain in the honors course at the end of the grading period and the student is still not performing at the minimum grade requirement, the student will be withdrawn from the honors course and placed in the regular course.

English Honors District Policy Prerequisite:

Students who want to enroll in an English Honors Course must meet 3 of the following requirements:

- Grade of B or Higher in a prior corresponding English course
- A score of Accelerated(4) or Advance(5) on a State Test the year prior in a English course
- A Student has achieved a College readiness score on the ACT/SAT tests
- Complete a pre-writing sample for the honors course and achieve a score of 3 or higher using the Pre-AP writing rubric.
- Special considerations for a student's placement will be allowed with a majority consensus of the Coordinator of Gifted Services, Teacher of the Honors course, Principal, and Superintendent

Students are expected to earn a grade of "C" or higher. If a student is not meeting the minimum expectation within the first four weeks of the grading period, a conference will take place to include the teacher, parent, student, School Counselor and/or principal to develop a plan for success. If the student, teacher, and parent recognize that the level of difficulty is such that the student is not successful, a level change should occur immediately. Should the student remain in the honors course at the end of the grading period and the student is still not performing at the minimum grade requirement, the student will be withdrawn from the honors course and placed in the regular course.

History Honors District Policy Prerequisite:

Students who want to enroll in a History Honors Course must meet 2 of the following requirements:

- Grade of B or Higher in a prior corresponding History course
- A Student must receive a score of 80% or higher on a pretest for the history course.
- Complete a pre-writing sample for the honors course and achieve a score of 3 or higher using the Pre-AP writing rubric.
- Special considerations for a student's placement will be allowed with a majority consensus of the Coordinator of Gifted Services, Teacher of the Honors course, Principal, and Superintendent

Students are expected to earn a grade of "C" or higher. If a student is not meeting the minimum expectation within the first four weeks of the grading period, a conference will take place to include the teacher, parent, student, School Counselor and/or principal to develop a plan for success. If the student, teacher, and parent recognize that the level of difficulty is such that the student is not successful, a level change should occur immediately. Should the student remain in the honors course at the end of the grading period and the student is still not performing at the minimum grade requirement, the student will be withdrawn from the honors course and placed in the regular course.

Pre-AP Writing Rubric	
Score	Writing
4 Advanced The response demonstrates or includes:	● Cohesion and the highly effective use and command of language ● A logical structure, with an insightful claim, effective order, and clear transitions ● A strong command of the conventions of standard written English, with almost no errors.
3 Proficient The response demonstrates or includes:	● Cohesion and an adequate use and command of language ● A logical structure, with a plausible claim, effective order, and transitions ● An adequate command of the conventions of standard written English, with only slight errors that do not interfere with meaning
2 Partial The response demonstrates or includes:	● Little to no cohesion or command of language ● An inadequate structure, with an unclear claim and a lack of adequate transitions ● Several errors in the conventions of standard written English that interferes with meaning
1 Inadequate The response demonstrates or includes:	● A complete lack of cohesion or command of language ● A mission or inadequate structure, with no identifiable claim and few if any transitions ● Many errors in the conventions of standard written English that interferes with meaning
Score	Comments:

Rubric Take directly from the Pre-AP English Course Guide pgs. 40-41

Athletic Eligibility

Grades 9 - 12: To be eligible, a student-athlete must be currently enrolled in a member school and have earned at least a 1.75 GPA and received a passing grade in a minimum of five (5) one-credit courses, or the equivalent, in the immediately preceding grading period.

Eligibility for students selecting to participate in CCP must be certain that:

1.) It is up to the student at the post-secondary institution to provide grades or a progress report at the time when the high school's grading period is over. (see Athletic code of Conduct for more detail)

2.) The student-athlete is taking enough post-secondary course work exclusively or between the post-secondary institution and the high school combined to be equivalent to five one-credit courses. Calculating equivalency of credits in the post-secondary institution is conducted in the same manner as in the high school, based on the Carnegie unit. College courses for which three or more semester hours of credit are earned shall be awarded one Carnegie unit. Fractional Carnegie units will be awarded proportionately.

Examples of CCP options:

Example: 1st Nine-Week Grading Period
Subject School Credit & Duration Credit Equivalency (Must Equal 5 Units or Equivalent)
History High School 1 (year course) 1 x 1 = 1
Literature CCP 3 semester hours 1 x 2 = 2
Calculus CCP 5 semester hours 1 x 2 = 2
Biology CCP 3 semester hours 1 x 2 = 2
Total Credits 7 = eligible for 2nd grading period provided five credits passed. The factor of 2 is used for post-secondary institutions that are on the semester system.

Example 2: 4th Nine-Week Grading Period
Subject School Credit & Duration Credit Equivalency (Must Equal 5 Units or Equivalent)
French CCP 5 semester hours 1 x 2 = 2
Sociology CCP 3 semester hours 1 x 2 = 2
Computers CCP 2 semester hours .67 x 2 = 1.34
Geology CCP 3 semester hours 1 x 2 = 2
Total Credits 7.34 = eligible for 1st grading period of next school year provided five credits passed. The factor of 2 is used for post-secondary institutions that are on the semester system.

*****Note that this student is taking all courses in CCP, which is acceptable. *****

A student enrolled in the first grading period after advancement from the eighth grade must have passed 75% of those subjects carried the preceding grading period in which the student was enrolled.

Summer school and other educational options may not be used to substitute for failure to meet the academic standards specified by the Ohio High School Athletic Association and the Switzerland of Ohio Local Schools.

******If you have questions concerning your athletic eligibility, please see your Principal, School Counselor, or Athletic Director as soon as possible.******

Career Technical Education - Swiss Hills Career Center

Students at Beallsville High School, Monroe Central High School and River High School have the option of attending Swiss Hills Career Center during their sophomore, junior and senior years to receive career technical training. There are many opportunities for students. Students are encouraged to make choices based upon their needs and desires. Parents are encouraged to be part of this decision-making process by talking to administrators, counselors and Career Readiness Coordinator at the Career Center, Beallsville High School, Monroe Central High School and River High School.

Career Technical Pathway to College

All programs at Swiss Hills can lead to Post-Secondary Education in either a two-year or four-year college, depending on the entrance requirements of the particular college. In addition, college credit can be earned through specific CT courses. For Senior Only Programs, consulate your School Counselor or contact Swiss Hills Career Center.

SWISS HILLS CAREER CENTER

Our Objective:

The primary objective of the Career Technical training programs at Swiss Hills Career Center is to assist students, businesses, and industry in promoting growth through quality education and training.

Our Vision:

Every Swiss Hills Career Center career tech program graduate is prepared for successful employment and ongoing education.

Our Mission:

The Mission of Swiss Hills Career Center is to prepare all students for lifelong learning through challenging academic education and technical literacy.

Our Commitment:

The Staff at Swiss Hills Career Center is committed to:

- ❖ Achieving excellence
- ❖ Delivering results
- ❖ Responding to our community needs
- ❖ Creating an environment for success

Swiss Hills Career Center provides:

- ❖ Options and Opportunities
- ❖ Real-world Learning
- ❖ Partnerships with business and industry
- ❖ Productive citizens

Advisory Committees:

Each Career Tech program has an Advisory Committee which is designed to assist in meeting the workforce development needs of the community and interests of the individual students. The dialogue between advisory committee members and career technical educators fosters a shared responsibility for preparing students for a place in the workforce and in society. Members may include former students, representatives of professional associations, community business and industry, and post-secondary institutions.

Certificate of Completion:

Each student who completes a Career Technical program with a minimum of a "C" average and a 90% attendance rate will qualify for a Certificate of Completion. The Certificate of Completion and a Career Passport will be awarded to successful program completers.

Early Placement:

Apprenticeships, Job shadowing, and "on the job" training are part of the experiences at Swiss Hills. Students meeting requirements are able to complete their high school diploma while advancing themselves in their chosen career field.

Prospective Swiss Hills Career Center Students

Students planning to attend Swiss Hills must have completed the following required subjects at Beallsville High School, Monroe Central High School or River High School by the end of the sophomore year: 2 credits of English; 2 credits of Social Studies; 2 credits of Science; 2 credits of Math; ½ credit of Health; ½ credit of Physical Education; and 2 credits of electives. While attending Swiss Hills, a student will receive either 6 or 7 credits for each year of the career tech program. (**If a student does not acquire the needed credits in the first two years of high school to attend Swiss Hills, the student will need to gain the necessary credit(s) through credit recovery or repeating the course the next school-year.)**

SWISS HILLS CAREER CENTER

- **The following list of Career-Technical Programs are approved to be offered at Swiss Hills Career Center for 2024-2025. These programs are subject to student enrollment and staff credentialing.**
    - Agricultural and Environmental Systems (Pathways A0 Agribusiness and Production Systems, A1 Agricultural and Industrial Power Technology, A2 Animal Science and Management, A6 Natural Resource Management)
    - Business Administration & Management (Pathway C4 Business and Administrative Services)
    - Construction Technologies (Pathways DD Structural Systems, DF Construction Design and Management)
    - Engineering and Science Technologies (Pathway F6 Engineering and Design)
    - Health Science (Pathways J7 Health Information Management Systems, JM Allied Health and Nursing)
    - Hospitality and Tourism (Pathways L0 Culinary and Food Service Operations, L1 Hospitality and Tourism)
    - Human Services (Pathway M1 Cosmetology)
    - Information Technology Pathways N2 Information Technology/Networking Systems, N4 Cybersecurity)
    - Law and Public Safety (Pathway P1 Criminal Justice)
    - Manufacturing (Pathway R7 Manufacturing Operations)
    - Transportation Systems (Pathway T9 Ground Transportation)

Additional Career Tech Information

Tech Prep:
Each of our programs articulate with area colleges through the Ohio College Tech Prep Consortium. Students will be given college credit for some of the courses taken at Swiss Hills.

Career Technical Honors Diploma:
Students who complete an intensive career technical education curriculum may earn a diploma with honors from the home high school. Refer to the Honors Diploma Section for further details.

Industry Credentials:
Upon successful completion, students are able to earn an industry credential. They include:

** WebXam & WorkKeys Tests - All programs*
** OHSA - Occupational Safety & Health Administration 10-Hour - All programs*
** STNA - State Tested Nurse Assistant & First Aid/CPR - Medical Technologies*
** CCNA - Cisco Certified Network Associate- Networking*
** NATEF - National Automotive Technicians Education Foundation- Automotive Technology*
** AWS - American Welding Society -Welding Technology*
** State Board of Cosmetology License - Cosmetology*
** Microsoft Office Specialist - Business, Admin., & Mgt.*
** ServSafe - Restaurant Mgt.*
** ETA - Electronic Technician Association - Electronics*

Career-Technical Student Organization (CTSO)

- BPA
- DECA
- FCCLA
- FFA
- SkillsUSA

Career Connections

A Career Pathway is a collective look at education and training, wage and outlook information for related occupations. These pathways offer an overview of the various career options along with education and training that can begin as early as grade 7. Whether a student is interested in going to college, getting a certificate or working right after high school, career pathways can be customized for any ambition or plan. For additional career planning resources, visit **OhioMeansJobs.com.**

Another great resource for career planning is the **Ohio Department of Education and Workforce Career Connections** page at Career pathways. Many pathways are available to explore by clicking on the area of interest.

NCAA Approved SOLSD Courses

English	Math
English 9 **Honors English 9** **English 10** **Honors English 10** **English 11** **English 12** **AP English Language and Composition** **AP English Literature and Composition** **CCP Speech** **CCP Composition I** **CCP Composition II**	**Algebra I** **Honors Algebra I** **Geometry** **Honors Geometry** **Algebra II** **Honors Algebra II** **Mathematical Modeling and Reasoning** **Pre Calculus** **Calculus** **Probability and Statistics** **AP Statistics** **CCP College Algebra** **CCP College Algebra and Trigonometry** **CCP Statistics** **CCP Trigonometry**
Science	**Social Studies**
Physical Science **Biology** **Honors Biology** **Chemistry I** **Chemistry II** **Anatomy and Physiology I** **Anatomy and Physiology II** **Human Anatomy and Physiology** **Earth and Space Science** **Ecology** **Environmental Science** **Forensics** **Physics** **AP Biology** **Agriculture Biology** **Biotechnology for Health & Disease** **Genetics of Disease** **Principles & Practices of Biomedical Technology** **Zoology** **CCP Human Biology** **College Biology**	**World History** **Honors World History** **American History** **Honors American History** **American Government** **Current Events** **Psychology** **Sociology** **The Civil War A & B** **World Geography** **AP US Government and Politics** **CCP American National Government** **CCP Cultural Anthropology** **CCP Microeconomics** **CCP Western Civilization** **CCP Western Civilization II** **CCP American History II**
Additional Course	
French I, II, III, IV **Spanish I, II, III, IV**	

Alphabetical Listing of Course Area

This Course Description Guide will give you an idea of the courses offered at the high school level. A student should choose courses based upon his/her needs in the future. **While every attempt will be made to offer each course, not all courses are taught each year because of the lack of requests for some courses or due to the lack of a highly-qualified teacher. Courses available based on student interest and teacher availability.**

Scheduling for All High School Courses

Students are to request courses so they will not have more than one study hall. If a student does not request enough courses to fill his/her schedule, he/she will be assigned courses. Some freshmen who are taking P.E. may only be able to carry a maximum of 5.75 units of credit, but every other student must carry at least six (6) units of credit. Students are advised to take health the freshman year. Pupils may carry additional units of credit only after conferring with their School Counselor. **While every attempt will be made to offer each course, not all courses are taught each year because of the lack of requests for some courses or due to the lack of a highly-qualified teacher.**

AGRICULTURAL AND ENVIRONMENTAL SYSTEMS CAREER FIELD AND PATHWAY

The Agricultural and Environmental Systems Career Field prepares students for careers in Agribusiness and Production Systems, Animal Science and Management, Bioscience, Horticulture, Natural Resource Management and Power Technology.

Agribusiness and Production Systems Pathway

Agribusiness and Production Systems program areas apply animal, plant and environmental sciences to the production, management, marketing, distribution and processing of agronomic crops and domesticated livestock. Communications, business principles and leadership skill development are essential to these program areas.

Careers for which this pathway prepares students include:

Farmer
Advisor
Grain Buyer
Surveyor
Livestock Buyer

Postsecondary majors for which this pathway prepares students include:

Agribusiness/Agricultural Business Operations
Agricultural and Extension Education Services
Agricultural Business and Management
Agricultural Economics
Agricultural Production Operations
Agricultural Public Services
Small Business Administration/Management
Applied Economics
Banking and Financial Support Services
Business/Corporate Communications
Finance and Financial Management Services
Marketing/Marketing Management
Merchandising and Buying Operations
Agronomy and Crop Science/Crop Production
Entomology
Plant Pathology/Phytopathology
Plant Protection and Integrated Pest Management
Science Technologies

Animal Science and Management Pathway

Animal Science and Management program areas will prepare students for careers in training and marketing domesticated and exotic animals. Students will gain the necessary technical and academic skills in anatomy and physiology, nutrition, reproduction, health, genetics and behavior.

Careers for which this pathway prepares students include:

Veterinarian
Breeder
Zoologist
Ferrier
Trainer
Groomer

Postsecondary majors for which this pathway prepares students include:

Animal/Livestock Husbandry and Production
Dairy Science
Equestrian/Equine Studies
Veterinary/Animal Health Technology/Technician and Veterinary Assistant
Zoology/Animal Biology

Bioscience Pathway

Bioscience program areas will prepare students for careers in plant/animal research and food processing. Students will gain the necessary technical and academic skills in chemistry, microbiology, genetics, testing, nutrition, safety/quality assurance, preservation and packaging to generate a variety of products.

Careers for which this pathway prepares students include:

Food Scientist
Lab Technician
Geneticist
Inspector

Postsecondary majors for which this pathway prepares students include:

Agricultural and Food Products Processing
Biotechnology
Food Science
Clinical Laboratory Science
Medical Technology
Biochemistry
Food Science
Bioengineering and Biomedical Engineering

Microbiology
Bioinformatics
Molecular Genetics
Biology/Biological/Biomedical Sciences

Horticulture Pathway

Horticulture program areas will prepare students for careers in landscaping and plant/floral design. Students will gain the necessary technical and academic skills in plant anatomy, nutrition, reproduction, genetics, health, production and marketing.
Careers for which this pathway prepares students include: Soil Scientist Nursery Technician Foreman Turf Manager Grower

Postsecondary majors for which this pathway prepares students include:

Applied Horticulture Science/Horticulture Operations
Botany/Plant Biology
Greenhouse Operations and Management
Landscaping and Groundskeeping
Ornamental Horticulture
Plant Nursery Operations and Management
Plant Sciences
Turf and Turfgrass Management

Natural Resource Management Pathway

Natural Resource Management program areas will prepare students for careers in environmental management, energy, parks and recreation, wildlife and forestry. Students will gain the necessary technical and academic skills in extraction, processing, protection, use and/or renewal of soil and water, mineral resources, plants, non-domesticated animals and aquatic life.

Careers for which this pathway prepares students include:

Environmental Scientist
Forester
Energy Engineer
Park Ranger
Biologist

Postsecondary majors for which this pathway prepares students include:

Ecology
Energy Management and Systems Technology
Environmental Control Technologies/Environmental Engineering Technology
Environmental Science
Environmental Health Engineering
Fishing and Fisheries Sciences and Management
Forestry/Forest Management/Forest Resources Management/Forest Technology
Urban Forestry
Hazardous Materials Management and Waste Technology
Mining Technology
Natural Resources Management and Policy
Natural Resources/Conservation
Petroleum Technology
Solar Energy Technology
Viticulture and Enology
Water Quality and Wastewater Treatment Management and Recycling Technology
Water Resources Engineering

Water, Wetlands and Marine Resources Management
Wildlife Biology
Wildlife, Fish and Wildlands Science and Management
Wood Science and Wood Products/Pulp and Paper Technology

Power Technology Pathway

Power Technology program areas will prepare students for careers in power equipment service. Students will gain the necessary technical and academic skills in maintenance, diagnosis and repair of equipment and systems.

Careers for which this pathway prepares students include:

Farm Mechanic
Equipment Operator
Service Technician

Postsecondary majors for which this pathway prepares students include:

Agricultural Engineering
Agricultural Mechanization
Agricultural Power
Machinery Operation
Diesel Mechanics Technology
Electrical and Electronic Engineering Technologies
Electrical and Power Transmission Installation
Heavy/Industrial Equipment Maintenance Technologies
Hydraulics and Fluid Power Technology
Industrial Electronics Technology
Industrial Mechanics and Maintenance Technology
Machine Tool Technology
Mechanic and Repair Technologies
Metallurgical Technology

Courses in Agribusiness & Production Systems (A0)

PATHWAY COURSES	SUBJECT CODE
Agriculture, Food and Natural Resources[1]	010105
Animal and Plant Science[2,3]	010125
Mechanical Principles[4]	010120
Science & Technology of Food	011010
Animal and Plant Biotechnology[2]	012010
Greenhouse and Nursery Management	010610
Forestry and Woodland Ecosystems	010730
Agronomic Systems	010620
Business Management for Agricultural and Environmental Systems	010115
Global Economics and Food Markets[3]	010130
Animal Anatomy and Physiology[3]	010945
Animal Health[4]	010915
Livestock Selection, Nutrition and Management[4]	010920
Meat Science and Technology	011020
Energy Systems Management	010715
Environmental Science for Agriculture and Natural Resources	010720
Agricultural and Environmental Systems Capstone	010190

[1]First course in the Career Field; [2]First course in the Pathway; [3]New Course; [4]Modification to Existing Course

Courses in Industrial Power Technology (A1)

PATHWAY COURSES	SUBJECT CODE
Agriculture, Food and Natural Resources[1]	010105
Agricultural & Industrial Power[2]	010210
Electronic & Electrical Systems	010215
Engines and Fuel Systems	010220
Hydraulics and Pneumatics	010225
Outdoor Power Technology	010235
Power Sports	010240
Power Trains	010230
Business Management for Agricultural and Environmental Systems	010115
Agricultural and Environmental Systems Capstone	010190

[1]First course in the Career Field; [2]First course in the Pathway; [3]New Course; [4]Modification to Existing Course

Courses in Animal Science & Management (A2)

PATHWAY COURSES	SUBJECT CODE
Agriculture, Food and Natural Resources[1]	010105
Animal Science and Technology[2]	010910
Animal Anatomy and Physiology[3]	010945
Animal Health[4]	010915
Medical Terminology	072150
Companion Animal Selection, Nutrition and Management[4]	010925
Livestock Selection, Nutrition and Management[4]	010920
Equine Selection, Nutrition and Management[4]	010935
Zoo and Aquarium	010940
Veterinary Science	010930
Meat Science and Technology	011020
Plant and Horticulture Science	010155
Environmental Science for Agriculture and Natural Resources	010720
Business Management for Agricultural and Environmental Systems	010115
Agricultural and Environmental Systems Capstone	010190

[1]First course in the Career Field; [2]First course in the Pathway; [3]New Course; [4]Modification to Existing Course

Courses in Natural Resource Management (A6)

PATHWAY COURSES	SUBJECT CODE
Agriculture, Food and Natural Resources[1]	010105
Natural Resources[2]	010710
Energy Systems Management	010715
Environmental Science for Agriculture and Natural Resources	010720
Environmental Systems Management	010725
Forestry and Woodland Ecosystems	010730
Park & Recreational Management	010735
Urban Forestry	010740
Wildlife & Fisheries	010745
Oil and Gas Operations[4]	010718
Bio Energy	010716
Solar and Wind Energy	010717
Electronic & Electrical Systems	010215
Hydraulics and Pneumatics	010225
Business Management for Agricultural and Environmental Systems	010115
Agricultural and Environmental Systems Capstone	010190

[1]First course in the Career Field; [2]First course in the Pathway; [3]New Course; [4]Modification to Existing Course

Agricultural and Environmental Systems Capstone - 1 credit
Subject Code: 010190
GRADE OFFERING ☐9 ☐10 ☐11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☒SHCC

Students apply Agricultural and Environmental Systems program knowledge and skills in a more comprehensive and authentic way. Capstones are project/problem-based learning opportunities that occur both in and away from school. Under supervision of the school and through partnerships, students combine classroom learning with work experience to benefit themselves and others. These can take the form of mentorship employment, cooperative education, apprenticeships and internships.

Agriculture, Food and Natural Resources - meets Physical Science credit requirements
Subject Code: 010105
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

This first course in the career field is an introduction to Agricultural and Environmental Systems. Students will be introduced to the scope of the Agricultural and Environmental Systems career field. They will examine principles of food science, natural resource management, animal science & management, plant & horticultural science, power technology and bioscience. Students will examine the FFA organization and Supervised Agricultural Experience programs. Throughout the course, students will develop communication, leadership and business skills essential to the agriculture industry.

This course is offered during the Freshmen year and can be taken in place of the Physical Science course. (Ohio Standards covered in the AFNR /Agri. Science courses are the same as those in Physical Science.) Upper class students may take this course as an elective. A Web Exam is required upon completion of this course.

Agricultural and Industrial Power
Subject Code: 010210
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

In this first course, students will learn the breadth of the Agricultural and Industrial Power Technology pathway. Students will learn the principles of power technology equipment systems which will include electronic and electrical systems, engines and fuels, hydraulic systems and power train components. Additionally, students will learn to safely operate and maintain machinery and equipment along with the principles of welding and metal fabrication.

Agronomic Systems
Subject Code: 010620
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully complete secondary course and earn a qualifying score of 50 or higher on the corresponding End of Course examination

Students will apply knowledge and skills required to research, develop, produce and market major agricultural and horticultural crops. Cultural and sustainable production practices will be examined while students apply scientific knowledge of plant development, nutrition and growth regulation. The knowledge and skills needed to manage water, soils, and pests related to agronomic crops will be assessed. Students will employ technological advances, communication, business, and management strategies appropriate for the industry.

Animal Anatomy and Physiology * meets graduation requirements for Biology and Advanced Science
Subject Code: 010945
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will examine the structure and function of the major organ systems as well as the function and principle of blood flow in animals. Students will study internal and external anatomical parts, their functions, and will investigate the relationship among these parts and systems within the body of an animal. Throughout the course, students will apply the internal functions of anatomical structures to the business and industry principles of the animal industry.

Animal Health * meets graduation requirements for Advanced Science
Subject Code: 010915
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will examine causes, symptoms, and treatment of common diseases with emphasis on developing preventative health management plans. Topics will include the study of pathogens, and classifying types of diseases and disorders. Students will perform animal health assessments and compare to standard characteristics. Throughout the course, students will utilize principles of technology to manage information systems, and research issues affecting the industry.

Animal and Plant Biotechnology * meets graduation requirements for Advanced Science
Subject Code: 012010
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully complete secondary course and earn a qualifying score of 60 or higher on the corresponding End of Course examination

Learners will apply principles of chemistry, microbiology and genetics to plant and animal research and product development. Students will apply genetic principles to determine genotypes and phenotypes. Students will describe the parts and functions of animal and plant cells and their importance in biochemistry. They will perform restrictive enzyme digests, Polymerase Chain Reactions and apply principles of nucleic acid blotting. This course will examine applications of Central Dogma Theory and other Molecular-Genetics Technologies.

Animal and Plant Science meets Biology credit requirements
Subject Code: 010125
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☐MCHS ☒RHS ☐SHCC

Students will apply knowledge of animal and plant science to the agriculture industry. They will be introduced to the value of production animals relative to the agricultural marketplace. Students will engage in animal classification and selection, body systems, along with animal welfare and behavior in

relation to the production of animals. Students will learn principles of plant anatomy and physiology, and the role of nutrition, deficiencies and growing environment on plant production. Throughout the course, business principles and professional skills will be examined.

Animal Science and Technology - meets Biology credit requirements
Subject Code: 010910
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully complete secondary course and earn a qualifying score of 50 or higher on the corresponding End of Course examination

Bio Energy

Subject Code: 010716
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will be introduced to the scientific and technical processes of biofuel/bioenergy production. Learners will evaluate the energy conversion process and methods for optimizing the fermentation process. Students will identify the systems and components employed by fermentation systems and communicate safe handling techniques of biomass, effluent and biogas. Throughout the course, students will evaluate environmental impacts, life-cycle analysis, and economic analysis of bioenergy production.

Business Management for Agricultural and Environmental
Systems Subject Code: 010115
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☐RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully complete secondary course and earn a qualifying score of 63 or higher on the corresponding End of Course examination

Students will examine elements of business, identify organizational structures and apply management skills while developing business plans, financial reports and strategic goals for new ventures or existing businesses. Learners will use marketing concepts to evaluate the marketing environment and develop a marketing plan with marketing channels, product approaches, promotion and pricing strategies. Throughout the course, students will apply concepts of ethics and professionalism while implications of business regulations will be identified.

Companion Animal Selection, Nutrition and Management * meets graduation requirements for Advanced Science

Subject Code: 010925
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☒SHCC

Students will identify and apply responsible animal science principles and routine husbandry practices to companion animals. Topics will include principles and practices of nutrient utilization, breeding programs and management of facility/housing design, meal plans and general care practices. Students will apply knowledge of companion animal care to enhance animal growth, enrichment, training, and education engagement programs. Throughout the course, students will follow practices for care and legal compliance in relation to classification of animals.

Energy Systems Management
Subject Code: 010715
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

3. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
4. Successfully complete secondary course and earn a qualifying score of 61 or higher on the corresponding End of Course examination

Students will apply basic principles of energy accounting, thermodynamics and heat transfer, energy conversion and efficiency to heating, power generation and transportation. Students will apply the principles and practices needed for managing renewable and non-renewable energy resources. Throughout this course, future energy systems and energy use scenarios are investigated, with a focus on promoting the use of renewable energy resources and technologies.

Engines and Fuel Systems
Subject Code: 010220
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will identify, diagnose, maintain and repair engines, including two and four-stroke, in addition to fueling systems based upon engine specifications. Topics include differentiation of fuels and fueling systems along with their characteristics, designations, and additives. Students will learn the principles of cooling, lubrication, intake and exhaust systems and how to make necessary repairs while maintaining system cleanliness. Throughout the course, site and personal safety along with business and employability skills are emphasized.

Environmental Science for Agriculture and Natural Resources * meets graduation requirements for Advanced Science
Subject Code: 010720
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

Prerequisite: Physical Science or AFNR **Agriculture, Food and Natural Resources/Agricultural Science and Biology**

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully complete secondary course and earn a qualifying score of 59 or higher on the corresponding End of Course examination

Students will study relationships between organisms and their environment. Principles of biogeochemical cycles, air-water-land relationships, non-point pollution, and wetlands will be applied. Students will examine fundamentals of resource development, agriculture sustainability, energy needs and pollution control. They will analyze and interpret data gathered from studies on the ecosystem. Throughout this course, students will develop responses to environmental problems and develop management strategies for responsible conservation and resource development.

Environmental Systems Management

Subject Code: 010725

GRADE OFFERING ☐9 ☐10 ☐11 ☐12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will analyze and interpret biological, chemical and physical properties of soil, water and air. They will determine the source and type of environmental contamination, evaluate pollution control measures and monitor treatment processes for potable water, waste water and solid waste. Throughout the course, learners will develop and implement environmental plans using principles governing ecosystems in relation to resource development and industrial processes.

Equine Selection, Nutrition and Management * meets graduation requirements for Advanced Science

Subject Code: 010935

GRADE OFFERING ☐9 ☐10 ☐11 ☐12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will identify and apply responsible animal science principles and management practices to equine populations. Topics will include equine nutrition, selection, reproduction and facility design and management. They will apply knowledge of equine science to enhance animal growth, enrichment and training, along with providing educational and visitor engagement programs. Throughout the course, students will develop management plans that reflect the classification of animals and follow best practices for care and legal compliance.

Forestry and Woodland Ecosystems

Subject Code: 010730

GRADE OFFERING ☐9 ☐10 ☐11 ☐12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will apply principles of botany, dendrology and silviculture to the management of forests and forest ecosystems. They will apply principles of timber cruising with surveying and mapping techniques to take forest measurements. Learners will develop the knowledge and skills necessary for forest reforestation, timber stand improvement, timber harvesting and forest product utilization. Learners will operate and maintain forestry equipment, apply fire management practices, and understand related regulations, laws, and policy issues.

Global Economics and Food Markets
Subject Code: 010130
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will examine economic principles related to agriculture, food, and natural resources along with the operation and use of commodity futures and option markets. Students will learn economic principles with emphasis on their application to the solution of agricultural industry problems. They will examine future exchanges and commodity futures contracts, hedging strategies, as well as put and call options. Throughout the course, students will become familiar with the causes and consequences of economic growth, globalization and development.

Greenhouse and Nursery Management * meets graduation requirements for Advanced Science
Subject Code: 010610
GRADE OFFERING ☐9 ☐10 ☒11 ☐12
BUILDING OFFERING ☒BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully complete secondary course and earn a qualifying score of 63 or higher on the corresponding End of Course examination

Students will learn the operational practices needed for the successful growth of nursery stock and/or greenhouse plants. They will learn essential greenhouse practices including water and fertilizer distribution, lighting, ventilation and temperature control. Students will learn pest and disease identification and control along with bio-security practices. Students will demonstrate knowledge of propagation methods, plant health, nutrition, and growth stimulation. Throughout this course, business and employability skills will be emphasized.

Hydraulics and Pneumatics
Subject Code: 010225
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully complete secondary course and earn a qualifying score of 61 or higher on the corresponding End of Course examination

Students will learn to diagnose, repair and rebuild hydraulic systems and their components. Students will learn the physical and mechanical principles of both hydraulic and hydrostatic operating units. Topics include testing system components and properly maintaining hydraulic and hydrostatic circuits. Students will demonstrate contamination control and system cleanliness in both hydraulic and hydrostatic operating systems. Throughout the course, site and personal safety procedures and business practices are reinforced.

Students will learn and apply responsible animal management principles and routine husbandry practices. Topics will include nutrition, feeding, and caring for animals, body/carcass composition evaluation, and applying marketing principles to the sale and distribution of animal products. Learners will investigate animal genetics and how it impacts principles of animal improvement, selection and marketing. Throughout the course, learners will develop business leadership, problem-solving and communication skills in relation to the science of animals.

Livestock Selection, Nutrition and Management * meets graduation requirements for Advanced Science
Subject Code: 010920
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☒SHCC

Students will identify and apply principles and routine husbandry practices to production animal populations. Topics will include principles of nutrition, feed utilization, animal welfare, selection and management of facilities and herd populations. Students will apply knowledge of production animal care to enhance animal growth, selection of breeding stock, and management practices. Throughout the course, students will develop management plans reflecting practices for care and legal compliance.

Meat Science and Technology
Subject Code: 011020
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will apply food chemistry and microbiology to processing, preservation, packaging, storage and marketing of meat products. Students will design and implement a quality assurance program that meets legal compliance and demonstrates knowledge of safe operation and maintenance of equipment and facilities. Students will evaluate carcass composition, assign quality grades, and examine value added products. Throughout the course, students will demonstrate customer service and sales techniques while understanding the scope and importance of business and safety regulations.

Mechanical Principles
Subject Code: 010120
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will engage in the mechanical principles utilized in animal and plant production systems. They will learn electrical theory, design, wiring, hydraulic and pneumatic theory, along with metallurgy in relation to hot and cold metals. Students will apply knowledge of sheet metal fabrication applicable to the agricultural industry along with identifying, diagnosing, and maintaining small air-cooled engines. Throughout the course, students will learn critical components of site and personal safety as well as communication and leadership skills.

Medical Terminology
Subject Code: 072150
GRADE OFFERING ☐9 ☒10 ☒11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully complete secondary course and earn a qualifying score of 60 or higher on the End of Course examination.

This course focuses on the applications of the rules for constructing and defining medical terms with an emphasis on building a working medical vocabulary. Topics include using the appropriate abbreviations and symbols for anatomical, physiological and pathological classifications and the associated medical specialties and procedures. Students will decipher medical terms by identifying and using word elements with an emphasis on derivation, meaning, and pronunciation. Further, students will interpret and translate medical records and documents.

Natural Resources
Subject Code: 010710
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:
1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully complete secondary course and earn a qualifying score of 68 or higher on the corresponding End of Course examination

Students will apply science principles and management practices to the protection of renewable and non-renewable natural resources. Students will learn fundamentals of land use as well as watershed, wildlife, fishery and forest management. Furthermore, students will learn management practices related to managing air and water quality along with requirements for managing solid and liquid waste. Throughout the course, students will apply communications, business principles and leadership skills.

Oil and Gas Operations
Subject Code: 010718
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will develop the skills applicable for the exploration, extraction and production of petroleum, natural gas and coal. They will learn practices related to the exploration, leasing, surveying, drilling, geophysical logging and completion process. Students will become familiar with wellhead and surface production equipment. Throughout the course, students will learn sampling, analysis, monitoring and control techniques for effective environmental management in the extractive industries.

Outdoor Power Technology - 1 credit
Subject Code: 010235
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC
Students will perform technical skills needed to maintain, diagnose and repair outdoor power equipment. Students will learn the theory of power and examine the aspects of repairing various engines, drive trains, and ancillary systems that make up modern small engine powered equipment. In addition, students will

develop troubleshooting skills for 2- and 4-stroke engines, electrical and fuel systems. Throughout the course, site and personal safety procedures along with business principles will be emphasized.

Park and Recreational Management
Subject Code: 010735
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will design facilities, develop educational programs, and manage resources for use in public recreation. Students will maintain and operate equipment for maintaining wildlife habitat and supporting a variety of public recreational activities and facilities. Throughout the course, students will develop marketing and programming skills for park development, apply management practices to park operations and learn the systems required to maintain public safety.

Plant and Horticulture Science
Subject Code: 010155
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

This first course in the pathway focuses on the knowledge and skills required to research, develop, produce and market agricultural, horticultural, and native plants and plant products. Students will apply principles of plant physiology and anatomy, plant protection and health, reproductive biology in plants, plant nutrition and disorders to the management of soils and plants. Throughout the course, students will learn communication, leadership, and business management skills reflective of the industry.

Power Sports
Subject Code: 010240
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will examine operating systems and perform maintenance practices for power sport off road and water vehicles. Students will learn engine theory, components, lubrication and cooling in order to diagnose service and repair. Topics also include the maintenance of electrical, fuel, air induction and exhaust systems of power engines. Power sport suspension, transmission, and braking systems are studied while students maintain site and personal safety and develop business principles throughout the course.

Science & Technology of Food
Subject Code: 011010
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully complete secondary course and earn a qualifying score of 61 or higher on the corresponding End of Course examination

Students will examine the research, marketing, processing and packaging techniques applied to the development of food products. Learners will examine nutrient content and their chemical makeup, while applying principles of chemistry to the development of food products. They will examine and implement food safety, sanitation, and quality assurance protocols. Government regulations and food legislation will be examined and the implications to food science and technology will be identified.

Solar and Wind Energy
Subject Code: 010717
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years of graduating from an approved career-technical education institution.
2. Successfully complete secondary course and earn a qualifying score of 52 or higher on the corresponding End-of-Course examination.
3. A student may only earn credit for Wind Energy OR Solar Photovoltaic because both of these subject areas are included in the yearlong secondary course Solar and Wind Energy.
4. Students must complete the ***prerequisite - College Algebra.***
5. Students will not receive credit for Solar Photovoltaic until they have completed the prerequisite requirement for College Algebra.

Students will conduct Energy Site Assessments by using and interpreting resource maps, performance data, zoning requirements and interferences, installation timelines and price. They will read plans, lay out components and assemble electrical system components. Students will perform system checkouts and interpret results from mechanical and electrical diagnostic reports and compile and maintain system records. Throughout the course, students will apply safety regulations and identify and resolve public safety issues.

Urban Forestry
Subject Code: 010740
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will apply techniques and practices promoting the care and management of trees for residential and commercial purposes. Topics include principles of soil management, dendrology and pest management. Students will analyze budgets; and develop short and long-range management plans that balance environmental and economic goals supporting sustainable land use patterns. Throughout the course, students will apply principles of rigging, advanced rope techniques, and chainsaw applications for tree pruning and removal.

Veterinary Science * meets graduation requirements for Advanced Science
Subject Code: 010930 - 1 credit
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☒SHCC

Students will learn causes, symptoms, and treatment of common diseases with special emphasis on developing preventative health management plans and breeding programs. Topics include veterinary pharmacology, radiology and imaging techniques, principles of surgery, safe laboratory skills, and the

concepts of ethics and professionalism in the workplace. Students will develop skills in inquiry and statistical methods. Throughout the course, learners will utilize principles of technology to manage information systems, and research issues affecting the industry.

Wildlife and Fisheries
Subject Code: 010745
GRADE OFFERING ☐9 ☐10 ☐11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully complete secondary course and earn a qualifying score of 65 or higher on the corresponding End of Course examination

Learners will apply the principles and practices of resource conservation and management to fish and wildlife populations. Students will learn proper wild animal handling techniques, principles of wildlife nutrition, inventory practices, water quality parameters and testing, and natural and artificial propagation. Learners will apply principles of facility design and layout for managing fish populations. Throughout the course, learners will research and evaluate the impacts of various land practices, legislation, and human activities on habitats and populations.

Zoo and Aquarium
Subject Code: 010940
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will apply responsible animal science principles and routine husbandry practices to captive animal populations. Learners will apply knowledge of animal behavior, welfare, and husbandry principles to enhance exhibit design, animal enrichment and training plans, and educational engagement programs. Emphasis will be given to data collection and research techniques. Students will apply principles of responsible population control, disease risk and management, and problem solving/action planning techniques.

ARTS & COMMUNICATIONS CAREER FIELD PATHWAY & COURSES

The Arts and Communication Career Field prepares students for careers in Media Arts, Performing Arts and Visual Design.

The Media Arts program areas prepare students for careers in various fields of communication such as journalism and commercial photography and film. Students gain the necessary technical and academic skills to develop and distribute mass media content.

Careers for which this pathway prepares students include:

Technical Writer/Editor
Videographer
Announcer
Audio Engineer
Reporter/Journalist
Content Strategist
Photographer

Postsecondary majors for which this pathway prepares students include:

Advertising
Writing
Communication
Film/Cinema/Video/Photographic Studies
Journalism
Public Relations/Image Management
Photography
Social Media/Emerging Technologies

Courses in Media Arts (BO)

PATHWAY COURSES	SUBJECT CODE
Arts and Communication Primer[1]	340001
Business of Arts and Communications	340006
Arts and Communication Capstone[3]	340009
Media Arts Primer[2]	340110
Media Arts Writing	340115
Digital Image Editing	340120
Motion Graphics	340125
Audio Broadcast	340130
Musical Engineering	340135
Video Broadcast	340140
Video Production	340145
Photographic Composition	340150
Photography Production	340155
Multi-Media Web Production	340160
Digital Cinema	340165

[1]First course in the Career Field; [2]First course in the Pathway; [3]Does not count as one of the required four courses

Arts and Communication Primer - this course counts as a Fine Arts credit

Subject Code: 340001

GRADE OFFERING ☐9 ☐10 ☐11 ☐12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

The worlds of art designers, performers and media artists intersect historically, culturally and aesthetically. In this introductory course for the Arts and Communication Career Field, students learn the basics of performance, design, audio and video. They review brochures, photographs, news stories, videos and other products common to the visual, media and performing arts industries.

Arts and Communication Capstone

Subject Code: 340009

GRADE OFFERING ☐9 ☐10 ☐11 ☐12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students apply Arts and Communication program knowledge and skills in a more comprehensive and authentic way. Capstones are project/problem-based learning opportunities that occur both in and away from school. Under supervision of the school and through partnerships, students combine classroom learning with work experience to benefit themselves and others. These can take the form of mentorship employment, cooperative education, apprenticeships and internships.

Audio Broadcast

Subject Code: 340130

GRADE OFFERING ☐9 ☐10 ☐11 ☐12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1) Matriculate to an institution of higher education with an approved or comparable program within 3 years of graduating from an approved career-technical education institution.
2) Successfully complete secondary course and earn a qualifying score of 77 or higher on the corresponding end-of-course examination.

NOTE: The coursework identified in this CTAN is guaranteed to transfer and may apply toward a Bachelor of Arts (BA) or Bachelor of Science (BS) in a Media Arts degree. It is not guaranteed to count for credit to count toward a Bachelor of Fine Arts (BFA) in Media Arts.

Sound is essential to broadcast journalism and advertising. Students compare and contrast how sound alone and sound combined with visuals can entertain, inform and initiate action. They generate content, record, edit, mix and produce voice and music for airwaves, podcasts and/or Internet. They adapt for analog and digital audio while adhering to Federal Communication Commission rules and regulations related to bandwidth and advertising.

Business of Arts and Communications

Subject Code: 340006

GRADE OFFERING ☐9 ☐10 ☐11 ☐12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

A growing number of professionals make a living in industries related to arts and communications. From event management to tracking expenses, students learn the business side of visual, media and performing arts. Topics include marketing, branding, producing, promoting, booking, budgeting and merchandising, etc. Students learn and apply intellectual property rights, licensing, copyright, royalties, liabilities and contractual agreements. They learn how both profit and non-profit organizations businesses operate.

Digital Cinema
Subject Code: 340165
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Inspiration, technique and trends are the focus of this single-camera, cinema-style course. Students engage in creative storytelling through concept development, scriptwriting and storyboarding. They learn to achieve the look of film through lighting and camera technique as well as double-system audio capture. Legal and ethical aspects such as copyright and fair use guidelines are learned.

Digital Image Editing – 1.25 Credit - this course counts as a Fine Arts credit

Subject Code: 340120
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Students must pass the corresponding End-of-Course (WebXam^{tm}) examination with a qualifying score of 44 or higher.
2. Students must work with their secondary institution to ensure that their official high school transcript, official WebXam^{tm} score, and the $(CT)^2$ Verification Form are submitted to the post-secondary institution where the student chooses to enroll. The post-secondary institution must also be a part of the statewide agreement or offer the career-technical discipline in which to facilitate credit transfer.
3. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program

This class will utilize Adobe Photoshop (most current version available).

This course focuses on manipulating images for final output through print and Web-based production. Students obtain a brief perspective on analog image editing and delve into the world of editing digital photos, illustrations and other artwork. They learn to adjust resolution and exposure, modify color, compress data and format and manage files. Students will use problem-solving strategies and work collaboratively to complete the creative process with artists, printers and Web developers.

Introduction to Media Arts – 1.25 Credits GRADE 7-10 - this course counts as a Fine Arts credit

Subject Code: 340110
GRADE OFFERING ☒9 ☒10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

In this first course of the Media Arts pathway students will learn the basics of how to convey messages through journalism, commercial advertising and marketing. They review the accuracy and impact of words and visuals used in news, advertisements and commercials. They learn essential terminology and basic tools for delivering messages. They understand the content length, deadlines and responsibilities of various delivery channels.

Media Arts Writing
Subject Code: 340115
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Copy for news stories, technical journals, advertisements and social media has similarities and differences. This course focuses on creating and adapting content for multiple purposes with print, radio, TV and the Web. Students conduct and synthesize research and interviews to write persuasive and unbiased copy. They evaluate and edit text for purpose, style, space limitations and accuracy. They accentuate messaging with design elements. Strategies to determine audience impact are engaged.

Motion Graphics
Subject Code: 340125
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

From script to storyboard and special effects, students develop products focused on a central theme and purpose. Using commercial and open-source digital animation software, they create an illusion of motion that extends beyond traditional frame-by-frame footage. They learn skills and techniques involving music, animation, text, voice, photos and videos. Products are adjusted for access through computers, mobile devices, game consoles, projectors, radio and TV.

Multi-Media Web Production - 1.25 Credit - this course counts as a Fine Arts credit

Subject Code: 340160
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

The focus of this course is on merging different types of media on the Internet. Students combine text, still photography, audio, videography and graphic arts to create interactive Web pages. They demonstrate creative, digital storytelling accessible from multiple platforms. Students learn project management and marketing. They learn how to create Web content that is accessible by individuals with visual disabilities.

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years of graduating from an approved career-technical education institution.
2. Successfully complete secondary course and earn a qualifying score of 53 or higher on the corresponding end-of-course examination.

The focus of this course is on merging different types of media on the Internet. Students combine text, still photography, audio, videography and graphic arts to create interactive Web pages. They demonstrate creative, digital storytelling accessible from multiple platforms. Students learn project management and marketing. They learn how to create Web content that is accessible by individuals with visual disabilities.

Musical Engineering
Subject Code: 340135
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students put music theory and basic music skill into practice as they engineer sound for live and recorded production. They create, capture, edit, mix and synchronize music into audio and video tracks of various formats. Topics include acoustics, reflection, absorption of sound and reverberation. Students create products based on research of audience sensitivity and need and do so in compliance with laws related to intellectual property and competition.

Photographic Composition – 1.25 credit - this course counts as a Fine Arts credit

Subject Code 340150
GRADE OFFERING ☒9 ☒10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

Aesthetics and techniques are essential to producing a good photograph. This course focuses on capturing and manipulating images in digital photography with some skill development in printing and enlarging. Topics include camera functions, mechanics of image capture, image manipulation, and print production. Students shoot photographs in various studio and indoor and outdoor settings.

Photography Production - 1.25 Credit - this course counts as a Fine Arts credit

Subject Code: 340155
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

Students advance their digital photographic knowledge and skill using camera raw files with a focus on commercial use and knowledge of production software. Emphasis is on creative expression and client communication to increase marketability of product. Topics include white balance, saturation, contrast and color correcting. Students apply copyright and fair use guidelines.

Video Broadcast
Subject Code: 340140
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

This course focuses on video broadcast for the journalism industry. Skills attained include interviewing, image capture, color manipulation, audio and video blend, lighting and editing. Students critique news broadcasts and research content. They plan and shoot video for live and recorded use in a specific time slot while adhering to laws related to defamation, libel, copyright and privacy.

Video Production – 1.25 Credit - this course counts as a Fine Arts credit

Subject Code: 340145

GRADE OFFERING ☐9 ☐10 ☒11 ☒12

BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

This course focuses on video production for commercial use. Students plan and coordinate work with clients to produce projects on a tight timeline. They learn how to read and interpret a script, select and maintain equipment and combine graphics, text and special effects. Skills attained include pre-production documentation and planning, in-production audio and video recording; and post-production editing and distribution.

BUSINESS AND ADMINISTRATIVE SERVICES

AND

FINANCE AND MARKETING CAREER FIELD PATHWAYS

The Business Management and Administrative Services Finance and Marketing Career Fields prepare students for careers in various business disciplines across a variety of industries important to the economic vitality of the State of Ohio. Students may also pursue entrepreneurship within a specific discipline.

Business Management and Administrative Services Pathway

The Business Management and Administrative Services program areas will prepare students for technical and professional level careers in business management, human resources, operations management, distribution and logistics, supply chain and legal or medical office management.

Careers for which this pathway prepares students include:

Business Information Specialist
Customer Service Associate
Distribution Manager
Medical Billing and Coding Associate
Office Manager
Product Associate
Project Coordinator
Records Manager
Small Business Owner
Supply Chain Associate
Training Specialist
Transportation Manager

Postsecondary majors for which this pathway prepares students include:

Business Administration or Management
Business Information Systems
Entrepreneurship
Human Resources Management
International Business
Medical Coding
Office Administration
Operations Management
Project Management
Supply Chain Management

Finance Pathway

The Finance program areas will prepare students for technical and professional level careers in financial and operational accounting, financial and investment planning, banking, insurance and business financial management.

Careers for which this pathway prepares students include:

Benefits Manager
Cash Manager
Claims Adjuster
Compliance Associate
Customer Service Representative
Financial Analyst
Financial Planner
Loss Control Manager
Small Business Accounting
Treasury Associate

Postsecondary majors for which this pathway prepares students include:

Accounting
Business Analysis
Economics
Finance
Financial Services
Insurance Management
Information Systems
Real Estate and Urban Analysis

Courses in Business and Administrative Systems Pathway C4

Pathway Courses C4 Business and Administrative Services	Subject Code
Business Foundations	141000
Database Application Development	145085
Fundamentals of Business and Administrative Services	142000
Human Resource Management	142035
Legal Environment of Business	142010
Management Principles	141025
Medical Office Management (CTAG/College Credit 3-semester hours available)	142015
Medical Terminology (CTAG/College Credit-3 semester hours available)	072150
Office Management (CTAG/ College Credit 3-semester hours available)	142005
Operations Management (CTAG/ College Credit 3-semester hours available)	142020
Professional and Technical Sales	144030
Strategic Entrepreneurship (CTAG/College Credit 3-semester hours available)	141030
Business and Administrative Services Capstone (Apprenticeship/Paid Work Placement Opportunities)	142045

Courses in Finance Pathway G2

Pathway Courses G2 Finance	Subject Code
Business Foundations	141000
Corporate Finance	143010
Database Application Development	145085
Financial Foundations	143000
Financial Accounting (CTAG/ College Credit 3-semester hours available)	143005
Financial Services Operations	143025
Fundamentals of Financial Services	143020
Management Principles	141025
Managerial Accounting (CTAG/ College Credit 3-semester hours available)	143015
Professional and Technical Sales	144030
Strategic Entrepreneurship (CTAG/College Credit 3-semester hours available)	141030
Finance Capstone	143030

Business Foundations
Course Code: 141000
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☒RHS ☐SHCC

This is the first course for the Business and Administrative Services, Finance and Marketing career fields. It introduces students to specializations within the three career fields. Students will obtain knowledge and skills in fundamental business activities. They will acquire knowledge of business processes, economics and business relationships. Students will use technology to synthesize and share business information. Employability skills, leadership and communications and personal financial literacy will be addressed.

Business and Administrative Services Capstone
Course Code: 142045
GRADE OFFERING ☐9 ☐10 ☐11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☒RHS ☐SHCC

Students will apply knowledge, attitudes and skills that were learned in a Business and Administrative Services program in a more comprehensive and authentic way in this capstone course. Capstones often include project/problem-based learning opportunities that occur both in and away from school. Under supervision of the school and through community partnerships, students may combine classroom learning with work experience. This course can be delivered through a variety of delivery methods including cooperative education or apprenticeship.

Corporate Finance – 1 credit
Course Code: 143010
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will manage policy and strategy for corporate budgeting, investment, and financial planning. They will calculate profitability, predict business success and the likelihood of failure, and compare business performance within and across industries. Students will also develop and track the achievement of financial goals. They will determine how to balance risk with return and select strategies for recovering from risky situations and disasters. Technology, employability skills, leadership and communications will be incorporated in classroom activities.

Database Applications Development
Course Code: 145085
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will use developer strategies to manipulate data, present database systems theory, and develop database applications. Students will learn to import and export data, manipulate table properties, make advanced queries, and run basic SQL forms and reports. Students will develop macros for automating database tasks and building menu-driven applications. Knowledge and skills of data modeling, diagraming, query writing, and design theory will be developed.

Finance Foundations – 1 credit
Course Code: 143000
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

This is the first course specific to Finance. It introduces students to the specializations offered in the career field. Students will obtain fundamental knowledge and skills in accounting, banking services, corporate finance, insurance, and securities and investments. They will acquire knowledge of financial analysis and application, business law and ethics, economics, international business and business relationships. Knowledge management and information technology will be emphasized. Employability skills, leadership and communications will be incorporated in classroom activities.

Financial Services Operations – 1 credit
Course Code: 143025
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will plan, organize, and carry out day-to-day activities unique to the banking, insurance and investment industries. They will learn to underwrite loan and insurance applications, handle problem accounts, and investigate and process insurance claims. Students will also evaluate risks faced by financial institutions and develop processes to promote ethically and legally compliant behavior throughout a banking, insurance or investment company. Technology, employability skills, leadership and communications will be incorporated in classroom activities.

Financial Accounting – 1 credit
Course Code: 143005
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☒RHS ☐SHCC

Students will track, record, summarize, and report a business's financial transactions. They will develop financial documents, project future income and expenses, and evaluate the accuracy of a business's financial information. Students will also apply tools, strategies, and systems to evaluate a company's

financial performance and monitor the use of financial resources. Technology, employability skills, leadership and communications will be incorporated in classroom activities.

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years of graduating from an approved career-technical education institution.
2. Successfully complete the secondary course earn a qualifying score on the corresponding end of course examination

Finance Capstone
Course Code: 143030
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

The capstone course provides opportunities for students to apply knowledge, attitudes and skills that were learned in a Finance program in a more comprehensive and authentic way. Capstones often include project-/problem-based learning opportunities that occur both in and away from school. Under supervision of the school and through community partnerships, students may combine classroom learning with work experience. This course can be delivered through a variety of delivery methods including cooperative education or apprenticeship.

Fundamentals of Business and Administrative Services – 1 credit
Course Code: 142000
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☒RHS ☐SHCC

This is the first course specific to the Business and Administrative Services career field. It introduces students to the specializations offered in Business and Administrative Services. Students will obtain fundamental knowledge and skills in general management, human resources management, operations management, business informatics and office management. They will acquire knowledge of business operations, business relationships, resource management, process management and financial principles. Students will use technological tools and applications to develop business insights.

Fundamentals of Financial Services
Course Code: 143020
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

Students will develop knowledge and skills needed in the banking, insurance and investment industries. They will analyze banking products and services, determine ways in which insurance reduces risk, and calculate insurable losses. Students will also learn to sell financial products and build positive relationships with clients and colleagues. They will use financial ratios to evaluate company performance and select profitable investments for clients. Technology, employability skills, leadership and communications will be incorporated in classroom activities.

Human Resource Management – 1 credit
Course Code: 142035
GRADE OFFERING ☐9 ☐10 ☒11 ☒12

BUILDING OFFERING ☐BHS ☐MCHS ☒RHS ☐SHCC

Students will develop human resources strategies to obtain, retain, and effectively use talent throughout the organization. Students will utilize technology to create job applications, job descriptions, and job profiles to support the talent acquisition process. They will learn to recruit applicants, administer employment assessments, conduct background investigations, and make and communicate hiring decisions. Students will also develop employee handbooks and establish performance improvement processes. Rewards and recognition practices, relationship management and compliance will be addressed.

Legal Environment of Business – 1 credit
Course Code: 142010
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☒RHS ☐SHCC

Students will examine all aspects of business law including the judicial system, differences between types of laws and origins of laws, administrative and employment laws and laws impacting individuals as well as businesses. Students will also research real estate and debtor and creditor laws and regulations. Students will learn to support attorneys by conducting legal research and preparing fully-compliant legal documents. Compliance and contract law will be emphasized.

Management Principles – 1 credit
Course Code: 141025
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☒RHS ☐SHCC

Students will apply management and motivation theories to plan, organize and direct staff toward goal achievement. They will learn to manage a workforce, lead change, and build relationships with employees and customers. Students will use technology to analyze the internal and external business environment, determine trends impacting business, and examine risks threatening organizational success. Ethical challenges, project management and strategic planning will also be addressed.

Managerial Accounting
Course Code: 143015
Pre-requisite: Financial Accounting
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

Students will use financial information to make strategic business decisions. They will monitor business profitability, measure the cost-effectiveness of expenditures, prepare budget and forecast reports, and set achievable business financial goals. Students will also use critical information on financial documents to determine risks to short-term and long-term business success. Technology, employability skills, leadership and communications will be incorporated in classroom activities.

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully completed the secondary course.

3. Successfully complete the secondary course earn a qualifying score on the corresponding end of course examination

Medical Office Management – 1 credit
Course Code: 142015
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years of graduating from an approved career-technical education institution.
2. Successfully complete secondary course and earn a qualifying score of 67 or higher on the end-of-course examination.

Students will carry out procedures used to manage people and information in medical offices. Students will code medical procedures in accordance with applicable guidelines as well as use technology to convert patient information to electronic medical records. They will also manage the insurance billing and collection process, utilize a patient scheduling and registration system, and develop a compliance program. Medical office safety and security will be emphasized.

Medical Terminology – 1 credit
Course Code: 072150
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully complete secondary course and earn a qualifying score of 61 or higher on the End of Course examination.

This course focuses on the applications of the rules for constructing and defining medical terms with an emphasis on building a working medical vocabulary. Topics include using the appropriate abbreviations and symbols for anatomical, physiological and pathological classifications and the associated medical specialties and procedures. Students will decipher medical terms by identifying and using word elements with an emphasis on derivation, meaning and pronunciation. Further, students will interpret and translate medical records and documents.

Office Management – 1 credit
Course Code: 142005
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☒RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program

2. Successfully complete secondary course and earn a qualifying score of 54 or higher on the corresponding End of Course examination

Students will apply techniques used to manage people and information in a business environment. Students will learn to build relationships with clients, employees, peers and stakeholders and to assist new employees. They will manage business records, gather and disseminate information, and preserve critical artifacts. They will also examine contracts, internal controls and compliance requirements. Business office tools and applications will be emphasized.

Operations Management – 1 credit
Course Code: 142020
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☒RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years of graduating from an approved career-technical education institution.
2. Successfully complete the course and earn a qualifying score of 60 or higher on the corresponding end-of-course examination.

Students will learn to plan, organize, and monitor day-to-day business activities. They will use technology to plan production activities, forecast inventory needs, and negotiate vendor contracts. Students will also calculate breakeven, set cost-volume-profit goals, and develop policies and procedures to promote workplace safety and security. They will design sustainability plans and use lean and six sigma principles to plan for quality improvement. Corporate social responsibility, ethics, risk management and compliance will be emphasized.

Professional and Technical Sales – 1 credit
Course Code: 144030
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

In this course, students will demonstrate sales processes and techniques used in a business-to-business environment. They will develop, grow, and maintain positive business relationships. Students will monitor trends and the business environment to determine the impact on their sales, customers, and competitors. They will negotiate and adjust prices and sales terms. Students will manage sales activities and territories. Technology, employability skills, leadership and communications will be incorporated in classroom activities.

Strategic Entrepreneurship – 1 credit
Course Code: 141030
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☒RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully completed the secondary course.

3. Successfully complete the secondary course earn a qualifying score on the corresponding end of course examination

Students will use innovation skills to generate ideas for new products and services, evaluate the feasibility of ideas, and develop a strategy for commercialization. They will use technology to select target markets, profile target customers, define the venture's mission, and create business plans. Students will take initial steps to establish a business. Students will calculate and forecast costs, break-even, and sales. Establishing a brand, setting prices, promoting products, and managing customer relationships will be emphasized.

CONSTRUCTION TECHNOLOGIES CAREER FIELD AND PATHWAY

The Construction Technologies Career Field prepares students for careers in designing, planning, managing, building and maintaining commercial, industrial and residential structures and infrastructures. Students in the Construction Technology career field may continue into registered apprenticeship or traditional postsecondary programs. Apprenticeship opportunities may be found at the Ohio State Apprenticeship Council website (http://jfs.ohio.gov/apprenticeship/index.stml).

Design Pathway

Design program areas will prepare students for careers dealing with construction design, facility maintenance, construction management and site safety and heavy equipment operations.

Careers for which this pathway prepares students include:

Architectural Designer
Interior Designer
Civil Drafting Engineering
Project Manager
Custodian Site Manager
Facility Maintenance Technician/Manager
Site Safety Coordinator
Heavy Equipment Operator
Surveyor

Postsecondary majors for which this pathway prepares students include:

Architectural Drafting
Building/Construction Site Management/Manager
Construction Management
Heavy/Industrial Maintenance Equipment Technologies
Interior Design

Structural Pathway

Structural program areas will prepare students for careers in occupations related to Carpentry and Masonry construction and maintenance.

Careers for which this pathway prepares students include:

Brick, Block and Cement Mason
General Contractor
Carpenter
Remodeler
Drywall Technician
Roofer
Flooring Specialists

Postsecondary majors for which this pathway prepares students include:

Building Construction Technology
Cabinetmaking and Millwork
Construction Trades
Structural Engineering

Courses in Structural Systems Pathway DD

Pathway Courses	Subject Code
Construction Technology – Core and Sustainable Construction	**178000**
Carpentry and Masonry Technical Skills (CTAG/College Credit 3-semester hours available)	**178001**
Mechanical, Electrical and Plumbing Systems	**178002**
Structural Systems	**178003**
Structural Coverings and Finishes	**178004**
Masonry-Brick and Block	**178005**
Concrete and Residential Masonry	**178006**
Construction Electrical Systems	**178007**
Residential Electrical Systems	**178008**
Residential and Commercial Plumbing Systems	**178011**
Construction Safety and Crew Leadership (CTAG/College Credit 3-semester hours available)	**178018**
Plan Reading (CTAG/College Credit 3-semester hours available)	**178019**
Construction Management	**178022**
Remodeling/Renovation	**178023**
Heavy Equipment Operations	**178026**
Construction Surveying and Site Logistics	**178027**
Principles of Woods Construction	**178030**
Fundamentals of Architecture and Construction	**178040**
Unmanned Aircraft Systems	**177024**
Construction Capstone	**178029**

Courses in Construction Design and Management Pathway DF

Pathway Courses	Subject Code
Construction Technology – Core and Sustainable Construction	**178000**
Carpentry and Masonry Technical Skills (CTAG/College Credit 3-semester hours available)	**178001**
Mechanical, Electrical and Plumbing Systems	**178002**
Construction Electrical Systems	**178007**
Heating and Cooling Systems	**178012**
Construction Safety and Crew Leadership (CTAG/College Credit 3-semester hours available)	**178018**
Plan Reading (CTAG/College Credit 3-semester hours available)	**178019**
Architecture Design - Structural and Mechanical/Electrical/Plumbing	**178020**
Architecture Design - Site and Foundation Plans	**178021**
Construction Management	**178022**
Remodeling/Renovation	**178023**
Facility and Building Maintenance	**178024**
Heavy Equipment Operations	**178026**
Construction Surveying and Site Logistics	**178027**
Interior Design	**178028**
Principles of Woods Construction	**178030**
Fundamentals of Architecture and Construction	**178040**
Unmanned Aircraft Systems	**177024**
Construction Capstone	**178029**

Construction Technology – Core and Sustainable Construction
Subject Code: 178000
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will learn principles in basic safety (10-hr OSHA), construction math, hand and power tool and operation, blueprint reading, material handling, communication and employability skills. An emphasis will be placed on safe and green construction practices.

Carpentry and Masonry Technical
Skills Subject Code: 178001
GRADE OFFERING ☐9 ☐10 ☒11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully completed the secondary course.
3. Successfully complete the secondary course earn a qualifying score on the corresponding end of course examination

This first course in the pathway will introduce to students the materials, methods, and equipment used in carpentry and masonry. Students will organize a project work sequence by interpreting plans and diagrams within a construction drawing set. They will layout and install basic wall, floor and roof applications. Students will perform introductory concrete applications including formwork, reinforcement, mixing, and finishing. Current advancements in technology, safety, applicable code requirements and correct practices are learned.

Mechanical, Electrical and Plumbing Systems
Subject Code: 178002
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students learn physical principles and fundamental skills across mechanical systems in construction. Students will select materials, assemble, and test basic electrical circuits. Students will select materials and assemble simple copper and plastic plumbing applications for both supply and drains. They will perform simple maintenance of electric motors, electric fixtures and plumbing fixtures. Students will be able to select and install basic ductwork components and learn the operation and maintenance of heating and cooling equipment.

Structural Systems
Subject Code: 178003
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will learn procedures and techniques required for layout and framing of walls and ceilings, including roughing-in door and window openings, constructing corners and partitions; bracing walls and ceilings; and applying sheathing. Students will learn methods of roof, cold formed steel, and wood stair framing. Students will learn site and personal safety, material properties, design procedures, and code requirements for structural systems.

Structural Coverings and Finishes
Subject Code: 178004
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

This course will address applications of interior and exterior finish work. Students will identify material properties and select appropriate applications. Students will install thermal and moisture protection including roofing, siding, fascia and soffits, gutters, and louvers. Students will install drywall; trim-joinery and molding and apply wall, floor and ceiling coverings and finishes. Throughout the course, the safe handling of materials, personal safety, prevention of accidents and the mitigation of hazards are emphasized.

Masonry-Brick and Block
Subject Code: 178005
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

The focus of this course will be on the technical aspects of masonry with emphasis on developing introductory skills in laying block and brick. They will learn the physical attributes of masonry materials and the tools required in masonry construction. Students will learn the principles necessary to construct

structures with a variety of brick and block materials. Throughout the course, the safe handling of materials and personal safety are emphasized.

Concrete and Residential Masonry - 2 credits
Subject Code: 178006
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

In this course, students will learn to read and interpret construction plans and drawings for masonry applications. They will learn to select materials based on physical attributes and job requirements. Students will set grades and construct forms, for concrete foundations, footings, and retaining walls. They will mix, reinforce, pour and finish concrete in various residential and commercial applications.

Construction Electrical Systems - 1 credit
Subject Code: 178007
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

This introductory electrical course will emphasize electrical theory, materials, and equipment. Students will explore the National Electrical Code and learn worksite safety. They will interpret schematics; construct basic circuits, use test equipment and electrical hand and power tools.

Residential Electrical - 1 credit
Systems Subject Code: 178008
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

This course will emphasize electrical theory, materials, equipment and general methods used in residential construction. Students will navigate the National Electrical Code, learn worksite safety and understand licensing and permitting requirements. They will interpret plans and job specifications and calculate loads and service requirements. Students will install, test and repair receptacle outlets, lighting and small appliance circuits. They will understand circuit protection concepts and install a subpanel. Specialty circuit installation will be addressed.

Pipefitting and Plumbing Systems - 1 credit
Subject Code: 178010
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

This course will emphasize the physical principles, general methods, materials and equipment used in the plumbing and pipefitting. Students will learn worksite safety and understand licensing and permitting requirements. They will interpret plans and job specifications and calculate service requirements. Students will rough in water supply and drainage lines following plumbing codes and municipal building standards. Additionally, students will install and maintain plumbing fixtures.

Residential and Commercial Plumbing Systems
Subject Code: 178011
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

This course focuses on the advanced residential and commercial plumbing systems. Students will plan, install, and maintain water supply, wastewater and fuel supply components following codes and municipal building standards.

Heating and Cooling Systems
Subject Code: 178012
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will apply principles of heating and cooling to the installation, troubleshooting and maintenance of residential and commercial Heating, Ventilation, and Air conditioning/Refrigeration (HVAC/R) Systems.

Construction Safety and Crew Leadership
Subject Code: 178018
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully completed the secondary course.
3. Obtain a valid OSHA 30 hour card in general construction

This course covers OSHA standards (30-hr OSHA) and requirements as they apply to the construction industry and crew/project management. Topics include safety and health hazards, safe practices, construction safety management, and crew management. Emphasis is on hazard identification, avoidance, control and prevention.

Plan Reading and Estimating
Subject Code: 178019
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully completed the secondary course.
3. Successfully complete the secondary course earn a qualifying score on the corresponding end of course examination

Students learn blueprint reading as it relates to architecture and construction. Students will use scaling, orthographic projections, dimensioning practices, symbols, notations, and abbreviations to perform area calculations and to interpret floor plan, section, and elevations and develop an estimate of material, time, personnel, and equipment needs, availability, and cost. Using construction plans, students will identify problems or shortcomings related to the layout and installation of materials for the project.

Architecture Design – Structural and Mechanical/Electrical/Plumbing
Subject Code: 178020
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will use architecture design principles to organize and arrange structures to create a perspective of a building. Students will use orthographic/pictorial projection, freehand technical sketching and computer-aided drafting (CAD) skills to generate floor and wall plans, elevations, sections, details and schedules. Students will develop sets of structural framing and mechanical working drawings that include plumbing, HVAC and electrical power and lighting plans.

Architecture Design – Site and Foundation Plans
Subject Code: 178021
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students use advanced architectural design concepts to construct design models including perspective drawings for final presentations. Students use orthographic/pictorial projection, freehand technical sketching and computer- aided drafting (CAD) tools to create site foundation and section plans that include topographical details and schedules. Additionally, students perform zoning analysis, develop preliminary plot plans, and construct grading and utilities plans that include legal descriptions and cut and fill volumes.

Construction Management - 1 credit
Subject Code: 178022
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

This course provides an integrated look at balancing the planning, estimating, and directing of construction operations. Students learn the process of creating and monitoring a construction project including standard agreements, bidding, estimates and project schedules. Students will learn to manage change orders, accident prevention and loss control, closeouts, and claims with an emphasis in production and quality control. Additionally, students will apply leadership, communications, and problem-solving skills to construction management.

Remodeling/Renovation
Subject Code: 178023
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will apply structural and mechanical skills to remodeling and renovations. In addition, students will learn the process of securing the required building permits, the management of subcontractors, and the coordination of formal building inspections. Students will troubleshoot design or logistics issues and provide possible solutions. Throughout the course, the safe handling of materials, personal safety, prevention of accidents and the mitigation of hazards are emphasized.

Facility and Building Maintenance

Subject Code: 178024
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students are introduced to the maintenance and management processes used in public buildings and industrial facilities. Students will troubleshoot building and systems issues and provide solutions following applicable procedures and standards. Students will operate and maintain machinery and equipment used in grounds and facilities maintenance tasks. Throughout the course, the safe handling of materials, personal safety, prevention of accidents and the mitigation of hazards are emphasized.

Heavy Equipment Operations
Subject Code: 178026
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students perform heavy equipment operating techniques and perform operator level maintenance. Students will learn to survey using lasers, transits and machine control systems. Additionally, students learn the techniques and processes for clearing, grubbing, stripping, excavating, backfilling, stockpiling, and cutting and spreading of fill material. Throughout the course, safety is emphasized.

Construction Surveying and Site Logistics
Subject Code: 178027
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students use surveying, topographic, satellite positioning, and geomatic instruments to locate and prepare a site for construction. Students establish lot and building lines as well as grade levels, and use site plans and elevation drawings to determine excavation needs. Students locate and mark underground and overhead services, identify soil conditions that may require shoring and position batter boards. Additionally, students identify the parameters for site selection, zoning regulations, and the process for filing building permits.

Interior Design
Subject Code: 178028
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students learn principles and elements of design as they relate specifically to interior spaces. Students develop functional and aesthetic design concepts with an emphasis in providing design solutions. Students select materials for appropriateness, quality, performance, and cost for interior applications. Students develop an estimate of material, time, personnel, equipment needs and cost and use presentation techniques, technical drawings and other visual materials to enhance and present interior designs.

Construction Pre-Apprenticeship/Capstone - 1 credit
Subject Code: 178029
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

The capstone course provides opportunities for students to apply knowledge, attitudes and skills that were learned in Construction programs in a more comprehensive and authentic way. Capstones often include

project/problem-based learning opportunities that occur both in and away from school. Under supervision of the school and through community partnerships, students may combine classroom learning with work experience. This course can be delivered through a variety of delivery methods including cooperative education or apprenticeship.

Principles of Wood Construction
Subject Code: 178030
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will engage in the introductory skills utilized in working with various wood construction materials. They will learn to use basic measuring tools, hand tools and machines, common to the wood industry, to construct basic projects. Additionally, students will examine various wood construction materials and their properties. Throughout the course, students will learn components of site and personal safety.

Fundamentals of Architecture and Construction
Subject Code: 178040
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

In this first course in the career field, students will be introduced to the basic principles of architecture and construction. During this course, students will read and create construction drawings and use hand tools to create basic construction projects and models. Throughout the course, students will use hands-on skills and procedures in a laboratory setting. Additionally, students will investigate career opportunities in construction and architecture related fields.

Pre-Apprenticeship Students in this course have the opportunity to apply knowledge, attitudes and skills in a structured work environment. Students are enrolled in a career-technical education structured pre-apprenticeship program, apprenticeship, or formalized work-based learning program, with a documented training plan that will potentially lead to further employment or training with the industry partner following graduation. Students are required to have completed at least three courses in the pathway related to the work assignment.

Aviation Unmanned Aircraft Systems
Subject Code: 177024
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will learn and simulate fundamentals of air traffic control. Subjects taught include principles of aircraft tracking using radar and transponders, controlling aircraft departures, takeoffs, ground operation and in air flight control. Students will learn and simulate techniques of sequencing aircraft approaches and departures using approach control radar. Students will study concepts of meteorology, the flight environment, identification of emergency codes, fundamental aspects of flight and air navigation.

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully completed the secondary course.
3. Successfully complete the secondary course earn a qualifying score on the corresponding end of course examination

FAMILY AND CONSUMER SCIENCES PATHWAY AND COURSES

Family and Consumer Sciences (FCS) is a set of courses that draws from a range of disciplines and contexts (education, business, social, economic, cultural, technological, geographical, political) to achieve optimal and sustainable living for individuals, families and communities.

The FCS curriculum is structured into one pathway. The pathway has been divided into clusters of courses based on their subject content and standards. Courses listed below have been identified as the recommended FCS program of study, that was developed from industry validated skills from initial employment of the continuation of education.

Family and Consumer Sciences &
Graduation, Reality, and Dual-Role Skills (GRADS)

COURSES	SUBJECT CODE
Principles of Food	091205
Global Foods	091210
Food Sciences	091215
Culinary Fundamentals	091220
Principles of Nutrition and Wellness	091225
Introduction to Family and Consumer Sciences	091201
Personal Wellness and Development	093005
Personal Wellness	093010
Human Growth and Development	093015
Child Development	091025
Graduation, Reality and Dual-Role Skills (GRADS)	090191
Transitions and Careers	091410
Personal Finance Management	091052
Consumer Economics	091053
Career and College Readiness	091402
Leadership and Community Engagement	091403
Textile and Interior Design	091501
Interior Design, Furnishings and Management	091500
Textile Design, Construction and Maintenance	091505

Introduction to Family and Consumer Sciences – .5 credit (Recommended as an introductory course)
Course Code: 091201
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

This first course will provide students with an overview of the four major content areas of Family and Consumer Sciences. Students will be introduced to child development, family relationship concepts and how they relate to family dynamics. Additionally, students will identify financial literacy and consumer economic principles. Students will understand the concepts of design through textiles for personal and home use. Throughout the course, students will develop communication, leadership and career investigation skills.

Personal Financial Management– .5 credit
Course Code: 153001
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: None – recommended for all sophomores
Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

a) Students must pass the corresponding End-of-Course (WebXam^{tm}) examination with a qualifying score of 55 or higher.
b) Students must work with their secondary institution to ensure that their official high school transcript, official WebXam^{tm} score, and the $(CT)^2$ Verification Form are submitted to the post-secondary institution where the student chooses to enroll. The post-secondary institution must also be a part of the statewide agreement or offer the career-technical discipline in which to facilitate credit transfer.
c) Matriculate to an institution of higher education with an approved or comparable program within 3 years of graduating from an approved career-technical education institution.

In this course, students will develop personal financial plans for individual well-being. Throughout the course, students will develop financial literacy skills to provide a basis for responsible citizenship and career success. Additional topics will include analyzing services from financial institutions, consumer protection, investing and risk management.

Human Growth and Development – .5 Credit
Course Code: 093015
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☐MCHS ☐RHS ☐SHCC

In this course, students will analyze human growth and development throughout the lifespan. An emphasis will be placed on physical, cognitive, social and emotional growth and development. Additional topics will include human characteristics and traits, genetic defects, parenting styles and responsibilities and cultural differences within a family unit and community

Child Development– .5 credit
Course **Code: 091025**
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☒RHS ☐SHCC

In this course, students will study the principles of child growth, development and behavior. An emphasis will be placed on the cognitive development of a child and sensory and motor skills. Additional topics will include childhood diseases, immunizations, theories of development, learning styles and evaluating childcare services.

Principles of Food– .5 credit
Course Code: 091205
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

In this course, students will gain knowledge in food selection criteria and apply preparation methods to promote a healthy lifestyle. Students will apply cooking methods, ingredient selection and nutritional information in the context of selected food dishes. Throughout the course, basic food safety and sanitation techniques will be emphasized.

Food Science (formerly known as Principles of Food II) - .5 Credit
Course Code: 091215
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☐MCHS ☒RHS ☐SHCC

In this course, students will apply basic culinary practices and understand how flavor, texture and appearance are affected during food preparation. Students will evaluate chemical reactions as they occur in cooking methods and assess how to control high-risk food safety situations. Food safety and sanitation techniques will align to industry-recognized certifications.

Culinary Fundamentals
Course Code: 091220
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

In this course, students will apply fundamental culinary techniques, such as knife handling skills and the recognition, selection and proper use of tools and equipment. An emphasis will be placed on mise en place, the management of time, ingredients and equipment. Students will apply standard recipe conversions using proper scaling and measurement techniques.

Career & College Readiness– .5 credit
Course Code: 091402
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

In this course, students will develop effective learning strategies and skills to provide a strong foundation for successful lifelong learning. Throughout the course, students will research careers and occupations, review postsecondary admissions qualifications, develop interviewing skills and participate in internships. Additional topics will include principles and techniques of professionalism, networking, conflict-resolution, negotiation, leadership and entrepreneurship.

Global Foods – .5 credit
Course Code: 091210
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

In this course, students will compare cuisines, ingredients and preferred cooking methods of various cultures. The influence of traditions and regional and cultural perspectives on food choices and culinary practices will be emphasized. Students will examine the issues and conditions that affect the availability and quality of food in the global market, and apply advanced cooking techniques, including the use of specialty and advanced equipment in the preparation of food dishes.

Personal Wellness – .5 credit
Course Code: 093010
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☐MCHS ☒RHS ☐SHCC

In this course, students will analyze personal physical, emotional, social and intellectual growth for a healthy lifestyle. An emphasis will be placed on lifespan wellness by managing stress through relaxation, physical activity and sleep. Additional topics will include human growth development, mental health management, personal hygiene and preparing for emergency medical situations.

Principles of Nutrition and Wellness – 1 credit
Course Code: 091225
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

In this course, students will use principles of nutrition to ensure a healthy body throughout the lifecycle. An emphasis will be placed on planning and preparing meals with an understanding of nutrients and their benefits, portion control and dietary needs. Additional information will include steroid and supplemental use, body weight and management and the implementation of physical activity to maintain a healthy lifestyle.

Personal Wellness and Development – 1 credit
Course Code: 093005
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☐MCHS ☒RHS ☐SHCC

In this course students will develop a personalized approach to healthy living. An emphasis will be placed on developing personal health for an adolescent that can be used as they transition through life. Additional topics will focus on problem-solving, work ethics, nutritional and food selections, family dynamics and personal health.

Leadership and Community Engagement – 1 credit
Course Code: 091403
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☐MCHS ☒RHS ☐SHCC

In this course, students will learn how to become an active community member and citizen. An emphasis will be placed on in-service learning, leadership training and teambuilding opportunities. Additional topics will include public policy issues, community and global engagement.

Transitions and Careers
Course Code: 091410
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☐MCHS ☒RHS ☐SHCC

In this course, students will analyze interests, aptitudes and skills to prepare for careers and transition through life. An emphasis will be placed on work ethics, team building, communication and leadership skills. Additional topics will include technology etiquette and career planning.

Textiles and Interior Design .5 credit Grades 7-10
Course Code: 091501
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

In this course students will explore a broad range of topics relating to the various aspects and career opportunities available in the field of textiles and design. The emphasis will be given to textiles project development and developing strategies to maintain the home. Additional topics will include project collaboration, design techniques and environmental sustainability.

Interior Design, Furnishings and Management
Course Code: 091500
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

In this Family and Consumer Sciences career field course, students will examine design principles used in residential interiors. An emphasis will be placed on incorporating anthropometrics, ergonomics and psychological responses. Additional topics will include the selection and organization of furnishings, floors and wall coverings in living spaces, kitchens and baths. Textile Design, Construction and Maintenance Course Code: 091505 In this course, students will study the visual appearance of fabric and fashion design. Students will identify, analyze and apply production processes and techniques to textiles. Additional topics will include the maintenance and alterations of textiles products, including home interior accessories and garments.

ENGLISH LANGUAGE ARTS

Suggested ELA Pathway:

- ➢ **Honors English 9 ⇨ Honors English 10 ⇨ AP English Language and Composition or CCP English ⇨ AP English Literature and Composition or CCP English**
- ➢ **English 9 ⇨ English 10 ⇨ English 11 ⇨ English 12**

English 9 – 1 credit
Course Code: 051
GRADE OFFERING ☒9 ☐10 ☐11 ☐12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC
Prerequisite: None

This course consists of Literature, Grammar, and Writing. The Literature portion of this class will consist of the genres of short stories, nonfiction, novels, poetry, drama, and Shakespearean drama. The Literature text also includes vocabulary, language lessons and activities. The Grammar portion of the class will consist of grammar review and reinforcement. The Writing portion of the class will consist of various forms of informal and formal writing; such as journals, written responses, and essays, along with a focus on the writing process.

Honors English 9 – 1 credit
Course Code: 0511
GRADE OFFERING ☒9 ☐10 ☐11 ☐12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: see Honors Course Policy

<u>English Honors District Policy Prerequisite:</u>

Students who want to enroll in an English Honors Course must meet 3 of the following requirements:

- Grade of B or Higher in a prior corresponding English course
- A score of Accelerated(4) or Advance(5) on a State Test the year prior in a English course
- A Student has achieved a College readiness score on the ACT/SAT tests
- Complete a pre-writing sample for the honors course and achieve a score of 3 or higher using the Pre-AP writing rubric.
- Special considerations for a student's placement will be allowed with a majority consensus of the Coordinator of Gifted Services, Teacher of the Honors course, Principal, and Superintendent

Students are expected to earn a grade of "C" or higher. If a student is not meeting the minimum expectation within the first four weeks of the grading period, a conference will take place to include the teacher, parent, student, School Counselor and/or principal to develop a plan for success. If the student, teacher, and parent recognize that the level of difficulty is such that the student is not successful, a level change should occur immediately. Should the student remain in the honors course at the end of the grading period and the student is still not performing at the minimum grade requirement, the student will be withdrawn from the honors course and placed in the regular course.

Honors English 9 is recommended for students who have demonstrated a strong aptitude and interest in reading, writing, speaking, listening, and cooperative learning activities. Ninth grade Honors English will study classic and contemporary literature. They will experience and analyze diverse genres of Language Arts. Poetry, novels, short stories, drama, research, presentations and essay writing will be the focus. Students will need to do an abundant amount of independent reading and will have many project-based assessments. Students should expect numerous writing assignments as well. The Switzerland of Ohio Local School District adopted text as well as a myriad of technological supplements that will be utilized in instruction to broaden and develop excellent communication skills. *Students will be required to read one or more novels over the summer months prior to freshman year. Students who take this class should be self-motivated.*

Freshman ELA Experience – 1 credit
Course Code: 0512 - Elective Credit
GRADE OFFERING ☒9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☒RHS ☐SHCC

Prerequisite: None

This course is intended to provide 9th grade students with a more intense focus on Ohio's New Learning Standards for English Language Arts. Students will be provided with intervention to improve ELA skills. Students will earn a full credit for completion and the course will count toward elective credits.

English 10 – 1 credit
Course Code: 053
GRADE OFFERING ☐9 ☒10 ☐11 ☐12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☒SHCC
Prerequisite: English 9

This course consists of Literature, Writing and state ELA testing preparation. The Literature portion of the class will consist of the genres of short stories, nonfiction, novels, poetry, drama, and Shakespearean drama. The literature text also includes vocabulary, language lessons and activities. The literature text is set up much the same as English 9 text, and is a continuation and building of skills taught in the English 9 course. The writing portion of the class will consist of various forms of informal and formal writing; such as journals, written responses, and essays, along with a focus on the writing process. This course will include more frequent essay assignments than the English 9 course. Grammar concepts, though not a focus in this course, will be practiced and reinforced in less frequent intervals, and only as a review.

Honors English 10 – 1 credit
Course Code: 0531
GRADE OFFERING ☐9 ☒10 ☐11 ☐12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: see Honors Course Policy

This course will include the same components as English 10, but will require more independent work from each student. The course will also explore assignments in a more in-depth way, including discussions and projects. The course will also cover more novels and writing assignments than the regular course. This course will challenge students and prepare them for CCP or AP English courses. Students will further develop writing skills through completion of formal academic writing (compare/contrast, informative, persuasive and literary analysis) as well as informal and creative writing assignments (journal entries, short stories and poetry portfolios). Vocabulary acquisition and grammar instruction will be incorporated through reading, writing and extension activities. *Students in Honors English 10 may be required to complete a Summer Reading Project, as outlined by the individual instructor.*

Sophomore ELA Experience – 1 credit
Course Code: 0532 - Elective Credit
GRADE OFFERING ☐9 ☒10 ☐11 ☐12
BUILDING OFFERING ☒BHS ☐MCHS ☒RHS ☐SHCC

Prerequisite: None

This course is intended to provide 10th grade students with a more intense focus on Ohio's New Learning Standards for English Language Arts. This class is intended to provide sophomore students with a more intense focus in weaker areas to better prepare them for ELA courses throughout high school. Students will earn a full credit for completion and the course will count toward elective credits.

English 11 – 1 credit
Course Code: 055
GRADE OFFERING ☐9 ☐10 ☒11 ☐12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☒SHCC

Prerequisite: English 10

Junior English acquaints students with American Literature from the beginning through the present time. Emphasis is placed upon understanding the material; reading it as a reflection of the times; realizing the importance of the historical and societal background; and studying the various genres of the time periods. Various writing assignments, formal and informal, are given throughout the year to develop and improve composition skills. Writing focuses on practical applications as well as a research paper utilizing MLA format. Vocabulary acquisition, literary analysis, and grammar skills are emphasized throughout the year. Students will submit journals from student and teacher-oriented topics. Students utilize the District approved text as well as various technological and tangible supplements.

AP English Language and Composition – 1 credit
Course Code: 070
GRADE OFFERING ☒9 ☒10 ☒11 ☒12– based on availability of AP Instructor
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: See AP District Policy requirements

The AP English Language and Composition course aligns to an introductory college-level rhetoric and writing curriculum, which requires students to develop evidence-based analytic and argumentative essays that proceed through several stages or drafts. Students evaluate, synthesize, and cite research to support their arguments. Throughout the course, students develop a personal style by making appropriate grammatical choices. Additionally, students read and analyze the rhetorical elements and their effects in non-fiction texts, including graphic images as forms of text, from many disciplines and historical periods. Student focus will be on 3 modes of rhetoric:

1. Synthesis
2. Rhetorical Analysis
3. Argument which are the 3 essay types on the AP exam established by the College Board.

**Students placed in Advanced Placement Language and Composition 11 will be required to complete a Summer Reading Project, as outlined by the instructor.*

English 12 – 1 credit
Course Code: 056
GRADE OFFERING ☐9 ☐10 ☐11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☒SHCC

Prerequisite: English 11

English 12 focuses on the study of British Literature. Students will explore literature from various time periods in order to understand how historical backgrounds and cultural values influence texts. As a college preparatory course, English 12 will require students to develop advanced comprehension and analysis skills. Vocabulary acquisition and grammar instruction will be incorporated throughout the year. Students will complete writing assessments through which they will demonstrate understanding of formal academic writing expectations, including MLA formatting. Focus is placed on developing college-level writing and analysis skills.

AP English Literature and Composition – 1 credit
Course Code: 071
GRADE OFFERING ☐9 ☐10 ☒11 ☒12– based on availability of AP Instructor
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: See AP District Policy requirements

The AP English Literature and Composition course aligns to an introductory college-level literary analysis course. The course engages students in the close reading and critical analysis of imaginative literature to deepen their understanding of the ways writers use language to provide both meaning and pleasure. As they read, students consider a work's structure, style, and themes, as well as its use of figurative language, imagery, symbolism, and tone. Writing assignments include expository, analytical, and argumentative essays that require students to analyze and interpret literary works. Student focus will be on 3 modes of analysis: Poetry, Short Fiction, and Argument for novels/dramas which are the 3 essay types on the AP exam established by the College Board.

**Students placed in Advanced Placement Literature and Composition 12 will be required to complete a Summer Reading Project, as outlined by the instructor.*

ELECTIVES

Freshman Year Seminar - .5 credits (elective credit)

Course Code: 510 - Elective Credit

GRADE OFFERING ☒9 ☐10 ☐11 ☐12

BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

Prerequisite: None

Freshman Year is an introductory course for freshmen. Beginning high school is an important step on the road to becoming an adult. We understand the questions and challenges which freshmen face. This course helps toward making a successful transition into high school. It will explore topics related to the academic and social transition from middle school to high school. It is an overall introduction to Monroe Central High School and what is expected from our students. Students will be given study skills, tools for organization, and techniques for time management. The class will also familiarize students with the school expectations, the various learning pathways, and the graduation seals and requirements. This class is not required for graduation but is recommended for all freshmen.

Communication/Speech - .5 credits

Course Code: 059 - Elective Credit

GRADE OFFERING ☐9 ☐10 ☒11 ☒12

BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: Required for all seniors

Communications is a one-semester course in which students will study, analyze and practice the techniques of formal and informal public speaking. Students will study the organizational patterns of formal academic speeches as well as compose and deliver a variety of speeches and presentations. Students will be required to use and professionally incorporate technology into their assignments, as well

as, learn and practice proper viewing, listening and critiquing skills throughout the year. Students will be required to complete formal and informal writing assignments.

Theatre Arts I, II, III, and IV – .5 credits each
Course Code: 126, 1262, 1263, and 1264 - Elective Credit
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☒SHCC

Prerequisite: None for Theatre Arts I. A grade of "B" or higher and/or teacher recommendation to proceed through 2, 3, and 4.

These courses are designed to provide an introduction to the nature of theater as a performing art. It will also provide an introduction to the technical elements of theatrical production (e.g., sets, lights, costumes, and sound) and their relation to each other. The courses involve hands-on practical work. Students also consider the major types of theatrical organizations. These courses are intended to be taken in numerical order, requiring a grade of a "B" or higher to continue on to the next class. It is intended that the classes culminate in a live production at the end of each semester.

Yearbook – 1 credit
Course Code: 058 - Elective Credit
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: Teacher Recommendation

The Yearbook course is a yearlong course designed to create, publish and distribute the school's yearbook. Students in this course are required to learn basic elements of design, layout and photography; become familiar with the Jostens Yearbook Avenue and Photoshop programs; learn techniques of selling ads, and then sell ads in the business community and to senior parents; create layouts and complete pages of the yearbook; and distribute the yearbook to the school population. Outside class time is often required for members of the yearbook staff. All staff members must recognize they represent SOLSD, their respective high school, the Yearbook Staff, and the Yearbook Advisors. Students must sign a contract stipulating they will act appropriately and commit their time to the creation of the Yearbook.

Newspaper/Yearbook II– 1 credit
Course Code: 058 - Elective Credit
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☐MCHS ☐RHS ☐SHCC

Prerequisite: Yearbook

The Newspaper/Yearbook course is a yearlong course designed to create, publish and distribute the school's yearbook and newsletter. Students in this course are required to learn and apply elements of design, layout and photography; continue working with the Jostens Yearbook Avenue and Photoshop programs; learn techniques of selling ads, and then sell ads in the business community and to senior parents; create layouts and complete pages of the yearbook/newspaper; and distribute the

yearbook/newspaper to the school population. Outside class time is often required for members of the yearbook/newspaper staff. All yearbook/newspaper staff members must recognize they represent SOLSD, their respective high school, the yearbook/newspaper Staff, and the yearbook/newspaper advisors. Students must sign a contract stipulating they will act appropriately and commit their time to the creation of the yearbook/newspaper.

ACT Prep - .5 credits – Grades 9-12
Course Code: 550A
Course Code: 550B

GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: None

ACT Prep Course Description: The ACT/College Prep course will emphasize ACT test-taking strategies, specifically math skills, language skills, reading skills, and science-reasoning skills. Students will study and practice listening and note taking techniques, test taking strategies, questioning and thinking skills, information retrieval, pre-ACT test practice, memory technique, reading in the content areas, vocabulary development, and college application completion with the central goal to increase both subtest scores and composite scores. All four ACT subtests will be reviewed: English, Math, Reading, and Science Reasoning.

Journalism - .5 credits
Course Code: 0559 and 05591 Journalism and Social Media I & 2
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☐RHS ☐SHCC

ENGINEERING AND SCIENCE TECHNOLOGIES

CAREER FIELD AND PATHWAY

Courses in Engineering and Science Technologies Pathway F6

Pathway Courses	Subject Code
Pre-Engineering Technologies	175015
Engineering Design (CTAG/College Credit 3-semester hours available)	175001
Engineering Principles (CTAG/College Credit 3-semester hours available)	175002
Manufacturing Operations (CTAG/College Credit 3-semester hours available)	175003
Robotics (CTAG/College Credit 3-semester hours available)	175004
Computer Integrated Manufacturing (CTAG/College Credit 3-semester hours available)	175006
Digital Electronics (CTAG/College Credit 3-semester hours available)	175007
Mechanisms and Drives	175008
Engineering Capstone (Apprenticeship/Paid Work Placement Opportunities)	175009
Analog Based Electronic Device	175012
Engineering Logic	175017
AC Electronic Circuits	175100
DC Electronic Circuits (CTAG/College Credit 3-semester hours available)	175105
Machine Tools	176004
Computer Numerical Control Technology with Industrial Mills and Lathes (CTAG/College Credit 3-semester hours available)	
Welding Technologies (Potential CTAG/College Credit 3-semester hours)	176009
Principles of Manufacturing	176010
Industrial Robotics (Potential CTAG/College Credit 3-semester hours)	176025
Hydraulics and Pnematics	
Energy Systems Management	010715
Biomedical Engineering	072115
Computer Hardware	145025
Computer Software	145030
Aviation (CTAG/College Credit 3-semester hours available)	177013
Unmanned Aircraft	
Plan Reading (CTAG/College Credit 3-semester hours available)	178019
Architecture Design - Structural and Mechanical/Electrical/Plumbing	178020
Architecture Design - Site and Foundation Plans	178021
Computer Numerical Control Technology with Industrial Mills and Lathes (Potential CTAG/College Credit 3-semester hours)	176007
Hydraulics and Pneumatics (CTAG/College Credit 3-semester hours available)	010225

Engineering Design (3D CAD Modeling and Print Reading) – 1.25 credit
Course Code: 175001
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☒RHS ☒SHCC

Prerequisite: None

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Successfully completed the secondary course.
2. Matriculate to an institution of higher education with an approved or comparable course no later than 3 years after completing the approved secondary program.
3. Earn a qualifying score on the end of course exam.

Students will learn the application of the engineering design process. Topics include work-processes, optimization methods, design optimization and risk management tools. Students will use 2D and 3D modeling software to help them design solutions to proposed problems, document their work and communicate solutions. Additionally, students will interpret industry prints and create working drawings from functional models. Emphasis is given to experimental problem solving in real systems equipped with additive and subtractive prototyping devices including a laser engraver, 3D Printer, 3D Carving machine, CNC and vinyl printer/cutter. Students will design and model a CO2 powered F1 Race Car and race it on an 80' racetrack.

Engineering Principles (Mechatronics) –– 1.25 credit
Course Code: 175002
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☐MCHS ☒RHS ☒SHCC

This course will introduce students to fundamental engineering concepts and scientific principles associated with engineering design applications. Topics include mechanisms, energy statics, materials and kinematics. Additionally, students will learn material properties and electrical, control and fluid power systems. Students will learn to apply problem solving, research and design skills to create solutions to engineering challenges.

Industrial Robotics - – 1.25 credit
Course Code: 176025
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years of completing the approved secondary program.
2. Successfully complete the course.
3. Submitted coursework must include proof of a laboratory component.

Computer Numerical Control Technology with Industrial Mills and Lathes - 1.25 credit
Course Code: 176007
GRADE OFFERING ☒9 ☒10 ☒11 ☒12

BUILDING OFFERING ☐BHS ☐MCHS ☒RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Successfully completed the course.
2. Matriculate to an institution of higher education with an approved or comparable course no later than 3 years after completing the approved secondary program.
3. Earn a passing score on the end of course exam.

In this course, students will use computer numerical control (CNC) programming to mill products composed of various materials. Students will prepare numerical control programs in positioning systems using standard industrial G and M codes. They will program computerized numerical control mills and lathes.

Manufacturing Operations
Course Code: 175003
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHMCHS ☒RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Successfully completed the course.
2. Matriculate to an institution of higher education with an approved or comparable course no later than 3 years after completing the approved secondary program.
3. Earn a passing score on the end of course exam.

Students will learn the production processes applied across manufacturing operations. Students will be able to demonstrate a broad array of technical skills with an emphasis given to quality practices, measurement, maintenance and safety.

Robotics
Course Code: 175004
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☒RHS ☒SHCC

Students will apply the knowledge and skills necessary to program and operate robots, using the teach pendant as the main interface point. Students will learn robotic operations and system configurations. Students will code, compile and debug programs using the robotic programming language.

Computer Integrated Manufacturing
Course Code: 175006
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☒RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully complete secondary course and earn a qualifying score of 60 or higher on the corresponding End of Course examination

In this course, students will be introduced to all aspects of computer-integrated manufacturing. They will learn about robotics and automation, manufacturing processes, computer modeling, manufacturing equipment and flexible manufacturing systems.

Digital Electronics
Course Code: 175007
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years of completing the approved secondary program.
2. Successfully complete the course.
3. Submitted coursework must include proof of a laboratory component.

NOTE: 4 semester hours of credit can be earned for college course CTEET002- Digital Electronics (OET002)

• Students must include proof of laboratory component with their submission.
Students are introduced to the process of combinational and sequential logic design. The system uses a precise sequence of discrete voltages, representing numbers, non-numeric symbols or commands for input, processing, transmission, storage or display. Engineering standards and methods for technical documentation will also be learned.

Mechanisms and Drives
Course Code: 175008
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☒RHS ☒SHCC

Students will learn the principles and practices of machine operation and machine applications. They will learn how machine components such as gears, belts, sprockets, bearings, clutches, couplings, springs, etc. contribute to the application for which the machine is designed. They will also examine the basic drives of such mechanisms as electric motors and hydraulic & pneumatic actuators.

Engineering Capstone - 1 credit
Course Code: 175009
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☒RHS ☒SHCC

The capstone course provides opportunities for students to apply knowledge, attitudes and skills that were learned in an Engineering program in a more comprehensive and authentic way. Capstones often include project/problem based learning opportunities that occur both in and away from school. Under supervision of the school and through community partnerships, students may combine classroom learning with work experience. This course can be delivered through a variety of delivery methods including cooperative education or apprenticeship.

Analog Based Electronic Devices
Course Code: 175012
GRADE OFFERING ☐9 ☐10 ☐11 ☐12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students are introduced to semiconductor diode applications, other two-terminal devices, thyristors, transistors and field effect transistors. Course includes design and analysis of transistor and FET DC bias circuitry. Operational characteristics and applications of FET and diode switching circuitry are studied. Students will examine rectifier circuits, amplifier circuits and Zener voltage regulation. Emphasis is on component testing and troubleshooting.

Pre-Engineering Technologies
Course Code: 175015
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☒RHS ☒SHCC

Students will acquire knowledge and skills in problem solving, teamwork and innovation. Students explore STEM careers as they participate in a project-based learning process, designed to challenge and engage the natural curiosity and imagination of middle school students. Teams design and test their ideas using modeling, automation, robotics, mechanical and computer control systems, while exploring energy and the environment.

Engineering Logic
Course Code: 175017
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☒RHS ☐SHCC

Students will apply the processes of digital circuit theory, combinational and sequential logic as it relates to circuit design and operation. Students will identify numbering systems, arithmetic and Boolean operations and apply simplification methods. Emphasis will be given to the analysis of wiring schematics and diagrams for accuracy and function. In addition, students will use electronic components to construct and troubleshoot digital circuits. AC

AC Electronic Circuits
Course Code: 175100
GRADE OFFERING ☐9 ☐10 ☐11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will learn the fundamental principles of electricity with emphasis on AC (alternating current) circuits. They will use concepts of Ohm's Law, the Power Formula and Kirchhoff's Law with series, parallel and series-parallel circuit applications. The relationship between electricity and magnetism and motor theory will also be introduced. The student will master electrical safety, breadboard wiring, basic circuit troubleshooting, operation of function generator, digital multimeter (DMM) and oscilloscope.

DC Electronic Circuits
Course Code: 175105
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Students must matriculate to an institution of higher education with an approved or comparable program within 3 years of completing the approved secondary program.

2. Students must successfully complete the course with a qualifying cut score of 61 or higher on the End-of-Course examination from an approved high school program.
3. Students must include proof of laboratory components with their submission.
4. Students must complete the prerequisite requirement for College Algebra at the matriculating institution.
5. Students will not receive post-secondary credit for DC Circuits until this prerequisite is satisfied.

Students will learn the fundamental principles of electricity with emphasis on DC (direct current) circuits. They will use concepts of Ohm's Law, the Power Formula and Kirchhoff's Law with series, parallel and series-parallel circuit applications. The student will master electrical safety, breadboard wiring, basic circuit troubleshooting, operation of DC power supply and digital multimeter (DMM).

Machine Tools
Course Code: 176004
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

This course introduces students to all aspects of machining applications in manufacturing. They will be able to perform routine calculations, interpret basic drawings, begin the process of performing accurate measurements and be able to plan simple machining processes. Students will learn the fundamental principles and practices of cutting, drilling and grinding using modern machine tools, hand tools and precision measuring instruments.

Manufacturing Capstone
Subject Code: 176008
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

The capstone course provides opportunities for students to apply knowledge, attitudes and skills that were learned in a Manufacturing program in a more comprehensive and authentic way. Capstones often include project/problem based learning opportunities that occur both in and away from school. Under supervision of the school and through community partnerships, students may combine classroom learning with work experience. This course can be delivered through a variety of delivery methods including cooperative education or apprenticeship.

Welding Technologies
Course Code: 176009
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education within 3 years of completing the approved program.
2. Successfully complete the course.
3. Earn a passing score on the end of course exam combined with the required performance based assessment.

Students will use fundamental welding principles involving shielded metal arc, oxyacetylene, gas tungsten and gas metal arc welding in the flat, horizontal and vertical positions. An emphasis is given to electrode selection, equipment setup, operating procedures, welding inspection and testing. Students will learn joint designs and layout and will be introduced to welding codes and standards. Additional topics include employability skills and an emphasis will be given to personal safety.

Welding Fabrication - 1 credit
CourseCode: 176015
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will apply the knowledge and skills necessary to safely fabricate parts by cutting, drilling, bending, shaping, forming, edging and assembling stock to drawing dimensions. Students will identify weld types, fasteners and adhesives to join materials.

Principles of Manufacturing
Course Code: 176010
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☒RHS ☐SHCC

Students will apply knowledge and skills required in the application of standard manufacturing practices including planning, design and visualization. Students will learn and apply skills related to interpreting drawings, creating documentation and performing measurements. Additionally, students will use principles and techniques of Computer Numerical Control (CNC), employ scheduling, and practice project evaluation.

Industrial Robotics
Course Code: 176025
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years of completing the approved secondary program.
2. Successfully complete the course.
3. Submitted coursework must include proof of a laboratory component.

Students will apply the knowledge and skills to program, safely operate, and troubleshoot industrial Robots. The students will learn industrial robotic operations and system configurations. Throughout the course, students will code, compile, and debug programs using industrial robotic programming language.

Hydraulics and Pneumatics
Course Code: 010225
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☒RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully complete secondary course and earn a qualifying score of 61 or higher on the corresponding End of Course examination

Students will learn to diagnose, repair and rebuild hydraulic systems and their components. Students will learn the physical and mechanical principles of both hydraulic and hydrostatic operating units. Topics include testing system components and properly maintaining hydraulic and hydrostatic circuits. Students will demonstrate contamination control and system cleanliness in both hydraulic and hydrostatic operating systems. Throughout the course, site and personal safety procedures and business practices are reinforced.

Energy Systems Management
Course Code: 010715
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will apply basic principles of energy accounting, thermodynamics and heat transfer, energy conversion and efficiency to heating, power generation and transportation. Students will apply the principles and practices needed for managing renewable and non-renewable energy resources. Throughout this course, future energy systems and energy use scenarios are investigated, with a focus on promoting the use of renewable energy resources and technologies.

Biomedical Engineering
Course Code: 072115 * meets graduation requirements for Advanced Science
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students learn medical interventions that extend and improve quality of life including gene therapy, use and development of prosthetics, rehabilitation techniques, and supportive care. Students will use 3D imaging, data acquisition software, and current scientific research to design and develop medical intervention products. Students will demonstrate current and emerging strategies and technologies used for collecting, analyzing, recording and sharing information. In addition, students will develop leadership and team-building skills that promote collaboration.

Computer Hardware
Course Code: 145025
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program.
2. Successfully complete the ODE secondary courses and receive a qualifying/passing score on the corresponding ODE "End of Course" examination(s).

i) Course 1: Computer Software (145030), qualifying score of 60 or higher and
ii) Course 2: Computer Hardware (145025)] qualifying score of 55 or higher.

Or, the student must hold the current CompTIA A+ certificate (current exams #220-801 and 220-802 or current equivalent exam).

Students will learn to install, repair, and troubleshoot computer hardware systems. They will perform preventative maintenance practices and learn techniques for maintaining computer hardware security. Communication skills and professionalism in troubleshooting situations will be emphasized.

Computer Software
Course Code: 145030
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully complete secondary course and earn a qualifying score of 60 or higher on the corresponding End of Course examination

Students will apply knowledge and skills of commercial and open source operating systems in portable, stand alone, and networked devices. Students will install a variety of operating systems manually and using remote assistance. They will learn to configure, modify, and troubleshoot operating systems. Desktop virtualization, system security, and operating system history will be addressed.

Aviation
Course Code: 177013
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully complete secondary course and earn a qualifying score of 74 or higher on the corresponding End of Course examination

In this first course, students apply knowledge of aviation theory and navigation to flight performance and planning. Students will apply principles of simple machines and fluid mechanics to aircraft operations. Identification of aircraft engines and airframe related systems will be emphasized. Weather theories and concepts are used to interpret weather-briefing documents. Additionally, students will distinguish among airport environments, and understand rules, regulations and orders relevant to the airport industry.

Plan Reading
Course Code: 178019
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program.
2. Successfully complete secondary course and earn a qualifying score on the End of Course examination.

Students learn blueprint reading as it relates to architecture and construction. Students will use scaling, orthographic projections, dimensioning practices, symbols, notations, and abbreviations to perform area calculations and to interpret floor plan, section, and elevations. Using construction plans, students will identify problems or shortcomings related to the layout and installation of materials for the project.

Architecture Design – Structural and Mechanical/Electrical/Plumbing
Course Code: 178020
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will use architecture design principles to organize and arrange structures to create a perspective of a building. Students will use orthographic/pictorial projection, freehand technical sketching and computer-aided drafting (CAD) skills to generate floor and wall plans, elevations, sections, details and schedules. Students will develop sets of structural framing and mechanical working drawings that include plumbing, HVAC and electrical power and lighting plans.

Architecture Design – Site and Foundation Plans
Course Code: 178021
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students use advanced architectural design concepts to construct design models including perspective drawings for final presentations. Students use orthographic/pictorial projection, freehand technical sketching and computer- aided drafting (CAD) tools to create site foundation and section plans that include topographical details and schedules. Additionally, students perform zoning analysis, develop preliminary plot plans.

PAES Lab - 1 credit – Grades – MCHS, RHS
Course Code: PAESLAB
Prerequisite: Enrollment upon teacher recommendation in grades 7-12
Students in the Practical Assessment Exploration System (PAES) Lab will acquire knowledge and develop skills while exploring various jobs using real tools while developing proper work behaviors. This will be presented through small tasks and problem solving situations focused on functional and vocational skills. Students will learn basic general work and life skills through a variety of assessment tools. Students will be engaged through hands-on learning that will provide a pathway to a possible career. Students will be given a variety of tasks to perform relating to a wide array of job skill sets including computer technology, construction/industrial, processing/production, consumer/service, and business/marketing. This course will also fulfill the financial literacy instruction requirement for graduation.

FINE ARTS

Art I – 1 Credit
Course Code: 021
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: None

In the first course in high school art, the student will be exposed to a variety of media as well as what it takes to skillfully use that media. Using the elements of art and the principles of design as a framework, students will investigate a variety of experiences and concepts. Students explore various two dimensional and three dimensional art media using a variety of expressive and technical ideas.

Art II – 1 Credit
Course Code: 022
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: Art I

In this course, the art student will continue to expand his/her knowledge of the visual arts by learning new techniques and methods, to handle new media and to further his/her understanding of familiar media. In this course, the student will also begin to concentrate on specific media and areas of the visual arts for which he/she feels a preference.

Art III – 1 Credit
Course Code: 023
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☐MCHS ☒RHS ☐SHCC

Prerequisite: Art I and Art II

In this course, the student will begin to work on an individual basis. By the time the student has reached this level, he/she has become acquainted with and fairly competent in the various media. The student in this class will expand his/her knowledge of the various media and continue with the refinement of techniques.

Art IV– 1 Credit
Course Code: 024
GRADE OFFERING ☐9 ☐10 ☐11 ☒12
BUILDING OFFERING ☒BHS ☐MCHS ☒RHS ☐SHCC

Prerequisite: **Art I, Art II, and Art III**

In this final course, the student will work on a very individualized basis. At this level, the student is thoroughly acquainted with the media and techniques available in the Art classes. From this point, the student will work more selectively on problem-type projects of his/her own choosing. Through experimentation, the student will determine the scope and length to which to carry out the project.

Drawing and Painting– 1 Credit

Course Code: 0231

GRADE OFFERING ☐9 ☐10 ☒11 ☒12

BUILDING OFFERING ☒BHS ☒MCHS ☐RHS ☐SHCC

Prerequisite: **Art I and Art II**

A continuation of the elements and principles of art, this class is used to develop the skills and sensitivity of drawing in a variety of methods and techniques. Students will increase awareness of composition and skills. This course will rely on the study of theories, methods, and painting techniques for landscapes, still-life and varied compositions with special emphasis on the elements and principles of art in painting. Watercolor, acrylic and oils will be used throughout.

Ceramics I– 1 Credit

Course Code: 0219

GRADE OFFERING ☒9 ☒10 ☒11 ☒12

BUILDING OFFERING ☒BHS ☒MCHS ☐RHS ☐SHCC

Prerequisite: **None**

The purpose of this course is to give students an extensive experience in the introduction of ceramics. It is the study and use of ceramic procedures and techniques, including hand forming, slab building, tile-making, and an intro to wheel throwing and surface manipulation.

Ceramics II – 1 Credit – Grade 10 - 12 – MCHS

Course Code: 02192

GRADE OFFERING ☐9 ☒10 ☒11 ☒12

BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

Prerequisite: **Ceramics I**

This visual arts course is designed for the continued study and application of problems in wheel-throwing and handbuilding techniques. Students will understand more advanced processes of ceramics and demonstrate greater competency through successful completion of various three-dimensional projects.

Students will be expected to show their work at various exhibitions and begin to build a portfolio of their work as a collection of actual pieces and in digital form.

Introduction to Photography I – 1 Credit
Course Code: 0221
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☐MCHS ☐RHS ☐SHCC

Prerequisite: **Art I**

Description: This class will be used to develop the skill of photography. Students will be learning photography basics such as aperture and shutter speed, as well as the rule of thirds, composition, studio lighting techniques, landscape and portrait photography. Students will also gain knowledge of basic photography editing tools by exploring Photoshop and other editing software.

AP Art 2D Design– 1 credit
Course Code: 021P
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

This portfolio is designated for work that focuses primarily on the use of two-dimensional elements and principles of design. Students should consider how materials, processes, and ideas can be used to make art that exists on a flat surface. Students can work with any materials, processes, and ideas for this portfolio. Students must submit five selected works that demonstrate 2-D skills and the synthesis of materials, processes, and ideas. For the sustained investigation, students must submit 15 digital images that demonstrate investigation through practice, experimentation and revision.

AP Art Design – Drawing – 1 credit
Course Code: 022P
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

This portfolio is designated for work that focuses on the use of mark-making, line, surface, space, light and shade, and composition. Students should consider marks that can be used to make drawings, the arrangement of marks, the materials and processes used to make marks, and relationships of the marks and ideas. Students can work with any materials, processes, and ideas for this portfolio. Students must submit five selected works that demonstrate drawing skills and the synthesis of materials, processes, and ideas. For the sustained investigation, students must submit 15 digital images that demonstrate investigation through practice, experimentation and revision.

AP Art 3D Design - 1 credit
Course Code: 023P
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

This portfolio is designated for work that focuses on the use of three-dimensional elements and principles of design. Students should consider how materials, processes, and ideas can be used to make art that involves space and form. Students can work with any materials, processes, and ideas for this portfolio. Students must submit two views of the five selected works (10 images) that demonstrate 3-D skills and the synthesis of materials, processes, and ideas. For the sustained investigation, students must submit 15 digital images that demonstrate investigation through practice, experimentation and revision.

FOREIGN LANGUAGE

Spanish Concentration

Spanish I – 1 Credit
Course Code: 065
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: None

Spanish I is an introductory course that concentrates on listening and speaking skills, with reading and writing appropriate for beginners. All students start at the Novice Low level. Students will be able to express likes, dislikes, wants, and desires in the target-language. They will also be able to describe people, places, and things. Culture within Latin America and Spain will be explored and compared with American culture through exposure to current events, art, music and dance, cinema, food, pastimes, values, holidays, architecture, and language. Participation is a must.

Spanish II – 1 Credit
Course Code: 066
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: Spanish I

Spanish II builds upon the skills students mastered at Spanish I. Emphasis is still centered around listening and speaking, but reading and writing are a bit more complex. Besides mastering the present tense, students will become familiar with and use the 2 past tenses in Spanish. Students will be able to express their daily activities, past activities, and immediate future plans / activities. Cultural activities will still be based upon current events, art, music and dance, cinema, food, pastimes, values, holidays, architecture, and language.
Participation is a must.

Spanish III – 1 Credit
Course Code: 067
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: Spanish II

Spanish III builds upon the skills students mastered at Spanish II. The class is mostly conducted in Spanish (gradually increases throughout the year). Student work becomes more independent in nature; reading, writing, listening and speaking continue to be integral parts of their course work. Students must read and understand selected pieces of literature and write reflections on various topics. Students will master the 2 past tenses and will become familiar with the future and conditional tenses as well as the subjunctive mood. Students will continue their studies of the Spanish language, history, and culture.

Spanish IV – 1 Credit
Course Code: 068
GRADE OFFERING ☐9 ☐10 ☐11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: Spanish III

Spanish IV is more advanced than the previous courses. The last year of the Spanish program focuses on preparing students for world language placement at the college level. The class is conducted mainly in Spanish. Students will continue to study literature, art, and cinema in the target-language. Students will continue to read other topics as well based on history, current events / issues, and cultural differences. All grammatical tenses will be covered in this course.

Latin American/Spanish Culture and Influence – 0.5 Credit
Course Code: 0655
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

Prerequisite: None

This course will focus on the cultures and traditions of the Spanish-speaking world, involving the countries and regions within Latin America, Spain, and a part of Africa. As such, the curriculum will include customs, food, geography, history, art, music, film, literature, and current events. While no prerequisites are necessary to take this course, students should expect to be exposed to the Spanish language at times throughout the semester.

GROUND TRANSPORTATION

Pathway Courses	Subject Code
Ground Transportation Maintenance[2,4]	177000
Ground Transportation Engine & Power Train	177001
Ground Transportation Electrical/Electronics	177002
Ground Transportation HVAC	177004
Automotive Engine Performance	177006
Automotive Braking Systems	177030
Automotive Steering and Suspension Systems	177031
Truck Diesel Engines	177007
Truck Braking Systems	177032
Truck Steering and Suspension Systems	177033
Sports/Recreational Power Systems	177008
Collision Electrical & Mechanical Systems	177009
Collision Structural Inspection & Repair	177010
Collision Nonstructural Inspection & Repair	177011
Collision Painting & Refinishing	177012
Hydraulics and Pneumatics	010225
Outdoor Power Technology	010235
Transportation Capstone[3]	177024

[1]First course in the Career Field; [2]First course in the Pathway; [3]Does not count as one of the required four courses; [4]CTAG Available

Ground Transportation Maintenance

Subject Code: 177000

GRADE OFFERING ☐9 ☒10 ☒11 ☒12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

In this first course, students will apply skills needed to inspect and perform general service on vehicles. Students will research applicable service information and technical service bulletins and perform maintenance on vehicles. Students will inspect and service engine, drive train, suspension, steering, electrical and braking systems. Students will perform ignition maintenance including spark plug/glow plug and ignition wire and coil pack replacement. Additionally, students change fluids, filters and inspect vehicles for leaks and fluid condition.

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program.
2. Successfully complete secondary course and earn a qualifying score on the end of course examination

Ground Transportation Engine and Power Train

Subject Code: 177001

GRADE OFFERING ☐9 ☒10 ☒11 ☒12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will inspect, adjust and repair internal combustion engines and drivetrain. Topics include physical and mechanical principles of engines, transmissions and transaxles, differentials and cooling systems. Students will learn precision measurement, inspection, and reconditioning techniques. Students will also identify customer's needs, determine labor rates, and create estimates.

Ground Transportation Electrical/Electronics

Subject Code: 177002

GRADE OFFERING ☐9 ☒10 ☒11 ☒12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Student will diagnose and repair vehicle electrical systems, including chassis electrical, charging, starting and lighting systems. Students will learn the fundamentals of direct current (DC) electronics including series, parallel, and series-parallel circuits. Students will use electronic diagnostic tools, read schematics, and use printed and electronic resources to troubleshoot electrical circuits, test components and replace defective modules.

Ground Transportation HVAC

Subject Code: 177004

GRADE OFFERING ☐9 ☒10 ☒11 ☒12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will learn principles of heating, ventilation and air conditioning systems (HVAC) for use in motor vehicles. They will also inspect, diagnose, repair and maintain vehicle air conditioning and heating systems. Students will use service equipment to evacuate, store and charge the air conditioning system. An emphasis will be given to the safe handling of refrigerants following EPA regulations.

Automotive Engine Performance

Subject Code: 177006

GRADE OFFERING ☐9 ☒10 ☒11 ☒12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will research vehicle service histories using model specific service bulletins. Students will test

and diagnose for engine performance in fuel, air induction and exhaust systems using advanced testing procedures. Topics include computerized engine controls including retrieving and recording diagnostic trouble codes using On Board Diagnostics (OBD). Additionally, students will diagnose drivability and emissions problems resulting from malfunctions of interrelated systems.

Automotive Brake Systems

Subject Code: 177030

GRADE OFFERING ☐9 ☒10 ☒11 ☒12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will perform inspections, troubleshoot malfunctions and service automotive brake systems. Students will identify poor performing hydraulic brake systems and replace malfunctioning components. Additionally, students will disable and enable supplemental restraint systems (SRS) and replace antilock brake systems components.

Automotive Steering and Suspension Systems

Subject Code: 177031

GRADE OFFERING ☐9 ☒10 ☒11 ☒12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will perform inspections, troubleshoot malfunctions and service automotive undercarriage systems. Students will install coil and leaf springs, shock absorbers and struts, and replace wheel bearings. Students will inspect and replace automotive steering components and perform wheel alignments.

Truck Diesel Engines

Subject Code: 177007

GRADE OFFERING ☐9 ☐10 ☐11 ☐12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will inspect, diagnose, and repair diesel truck engines. Students will learn the principles of valve train assemblies, lubrication, intake, exhaust and fuel systems. Additionally, skill development in engine testing, inspection and repair of electronic fuel management systems are emphasized. Students will break down and assemble heavy truck engines and supporting systems.

Truck Braking Systems

Subject Code: 177032

GRADE OFFERING ☐9 ☒10 ☒11 ☒12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students perform inspections, troubleshoot malfunctions, and service truck brake systems. Students identify poor performing air brake systems and replace malfunctioning components. Identifying workplace risk factors associated with repetitive motion and lifting, operating, and moving of heavy objects are emphasized.

Truck Steering and Suspension Systems

Subject Code: 177033

GRADE OFFERING ☐9 ☒10 ☒11 ☒12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students perform inspections, troubleshoot malfunctions, and service truck undercarriage systems. Students will install leaf springs, shock absorbers and air suspension components. Students inspect and replace truck steering components and replace wheel bearings. Additionally, students will perform wheel alignment and tire inspections, diagnostics, and repair. Identifying workplace risk factors associated with repetitive motion and lifting, operating, and moving of heavy objects are emphasized.

Sports/Recreational Power Systems

Subject Code: 177008

GRADE OFFERING ☐9 ☐10 ☐11 ☐12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students learn principles and skills to maintain and repair sports/recreational vehicles. Students will inspect, diagnose, and repair engine, drive train, and suspension systems. Students remove, disassemble, and repair components in engine cylinder head and block assemblies. Students inspect, adjust and repair drivetrain systems including shaft and chain drive components. Additionally, students will inspect, adjust and replace suspension components including shocks, seals and springs. Students will maintain and adjust systems specific to specialized vehicles.

Collision Electrical and Mechanical Systems

Subject Code: 177009

GRADE OFFERING ☐9 ☐10 ☐11 ☐12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will perform inspections and repair electrical and mechanical damage due to collision. Topics include electrical and wiring harness, suspension, braking and cooling system repairs. Students will service supplemental restraint systems (SRS) and ensure the integrity of the systems.

Collision Structural Inspection and Repair

Subject Code: 177010

GRADE OFFERING ☐9 ☐10 ☐11 ☐12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will perform automotive collision repair of full and unibody frames and attach non-structural components. Students will apply the skills and knowledge needed to measure and diagnose structural damage, create a parts list, and determine labor costs. Students will remove and replace damaged structural components. Emphasis will be given to joining and cutting aluminum, steel and other metals. Students will maintain tools and facilities while complying with personal and environmental safety practices.

Collision Nonstructural Inspection and Repair

Subject Code: 177011

GRADE OFFERING ☐9 ☐10 ☐11 ☐12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will learn the skills and knowledge of automotive body panel repairs, replacements, and adjustments. Students will analyze, document, prepare estimates and repair nonstructural collision damage. Students will remove corrosion protection, undercoating, sealer, and other protective coatings as necessary to perform repairs. Emphasis will be given to joining and cutting aluminum, steel and other

metals. Students will maintain tools and facilities while complying with personal and environmental safety practices.

Collision Painting and Refinishing

Subject Code: 177012

GRADE OFFERING ☐9 ☐10 ☐11 ☐12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will restore and refinish vehicle exterior body and paint finish. Students will inspect and identify substrate, type of finish, surface condition, and film thickness; develop and execute a plan for refinishing using a total product system. Students will inspect, clean, and determine condition of spray guns and related equipment. Additionally, students will observe safety precautions when using hazardous materials.

Hydraulics and Pneumatics

Subject Code: 010225

GRADE OFFERING ☐9 ☒10 ☒11 ☒12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will learn to diagnose, repair and rebuild hydraulic systems and their components. Students will learn the physical and mechanical principles of both hydraulic and hydrostatic operating units. Topics include testing system components and properly maintaining hydraulic and hydrostatic circuits. Students will demonstrate contamination control and system cleanliness in both hydraulic and hydrostatic operating systems. Throughout the course, site and personal safety procedures and business practices are reinforced.

Outdoor Power Technology

Subject Code: 010235

GRADE OFFERING ☐9 ☒10 ☒11 ☒12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will perform technical skills needed to maintain, diagnose and repair outdoor power equipment. Students will learn the theory of power and examine the aspects of repairing various engines, drive trains, and ancillary systems that make up modern small engine powered equipment. In addition, students will develop troubleshooting skills for 2- and 4-stroke engines, electrical and fuel systems. Throughout the course, site and personal safety procedures along with business principles will be emphasized.

Transportation Capstone

Subject Code: 177023

GRADE OFFERING ☐9 ☐10 ☐11 ☒12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

The capstone course provides opportunities for students to apply knowledge, attitudes and skills that were learned in Transportation program in a more comprehensive and authentic way. Capstones often include project/problem-based learning opportunities that occur both in and away from school. Under supervision of the school and through community partnerships, students may combine classroom learning with work experience. This course can be delivered through a variety of delivery methods including cooperative education or apprenticeship.

HEALTH SCIENCE CAREER FIELD AND PATHWAYS

The Health Science Career Field prepares students for careers in Allied Health and Nursing, Exercise Science and Sports Medicine, Health Information Management and Medical Bioscience.

Allied Health and Nursing Pathway

Allied Health and Nursing program areas will prepare students with the mathematics, science and technical skills to provide clinical assistance in patient care, emergency interventions (CPR, first‑aid, AED), nutrition, dentistry and surgery.

Careers for which this pathway prepares students include:

Dental Assistant
Patient Care Assistant
Licensed Practical Nurse (LPN)
Pharmacy Aide/Technician
Medical Assistant
Surgical Technician
Nurse Aide (including STNA)
Respiratory Technician
Phlebotomist
Optometry

Postsecondary majors for which this pathway prepares students include:

Clinical Nutrition
Community Health and Preventative Medicine
Occupational Health and Industrial Hygiene
Dental Laboratory Technology
Optics/Optical Sciences
Health Care Administration
Gerontology
Licensed Practical Nurse Training
Register Nursing
Surgical Technology

Exercise Science and Sports Medicine Pathway

Exercise Science and Sports Medicine program areas will prepare students with the mathematics, science and technical skills to assist with exercise and rehabilitative procedures for the human body.

Careers for which this pathway prepares students include:

Athletic Trainer
Physical Therapist
Assistant Personal Trainer
Occupational Therapist Assistant
Kinesiology and Exercise Science
Medical Massage Therapist

Postsecondary majors for which this pathway prepares students include:
Athletic Training Kinesiology and Exercise Science Foods, Nutrition and Wellness Studies

Health Information Management Pathway

Health Information Management program areas will prepare students with the mathematics, science and technical skills to create, manage and maintain confidential electronic health data and records.

Careers for which this pathway prepares students include:
Medical Coder/Biller Medical Records Technician Health Information Medical Records Assistant Medical Insurance Coding Specialist

Postsecondary majors for which this pathway prepares students include:
Health Information/Medical Records Administration
Health Information/Medical Records Assistant
Technology Medical Transcription

Medical Bioscience Pathway

Medical Bioscience program areas will prepare students with the mathematics, science and technical skills to apply biotechnology research and development to human health.

Careers for which this pathway prepares students include:
Biomedical Lab Assistant
Phlebotomist
Lab Technician
Medical Lab Technician
Microbiology Generalist

Postsecondary majors for which this pathway prepares students include:
Biological and Biomedical Sciences
Biomedical Technology
Biotechnology
Microbiology

Courses in Exercise Science and Sports Medicine Pathway J6

Pathway Courses	Subject Code
Exercise and Athletic Training (CTAG/College Credit 3-semester hours available)	**072000**
Health Science and Technology	**072001**
Bio-Statistics in Exercise Science and Sports Medicine	**072005**
Exercise Physiology and Biochemistry	**072010**
Nutrition and Wellness	**072015**
Fitness Evaluation and Assessment (CTAG/College Credit 3-semester hours available)	**072020**
Athletic Injuries and Prevention	**072025**
Sports Exercise Psychology	**072030**
Human Anatomy and Physiology	**072040**
Health Science Capstone (Apprenticeship/Paid Work Placement Opportunities)	**072105**
Medical Terminology (CTAG/College Credit 3-semester hours available)	**072150**
Medical and Dental Office Technology	**072155**

Courses in Allied Health and Nursing Pathway JM

Pathway Courses	Subject Code
Health Science and Technology	072001
Nutrition and Wellness	072015
Principles of Allied Health	072035
Human Anatomy and Physiology	072040
Human Pathophysiology	072045
Patient Centered Care	072050
Patient Centered Care and Diagnostics	072055
Lifespan Development and Medical Intervention	072060
Mental Health	072065
Surgical Support	072070
Dental Technology	072075
Medical and Dental Office Technology	072155
Dental Radiography	072076
Oral Diagnosis and Treatment Planning	072080
Pharmacology	072085
Respiratory Technology	072090
Opticianry and Vision Care	072095
Clinical Laboratory Techniques (CTAG/College Credit 2-3 semester hours available)	072100
Health Science Capstone (Apprenticeship/Paid Work Placement Opportunities)	072105
Medical Terminology (CTAG/College Credit 3-semester hours available)	072150
Emergency Medical Technician	170345
Health Information Technology (CTAG/College Credit 3-semester hours available)	072135
Health Information Management (CTAG/College Credit 2-semester hours available)	072140
Billing and Coding	072145

Courses in Health Information Management Pathway J7

Pathway Courses	Subject Code
Health Science and Technology	072001
Health Information Technology (CTAG/College Credit 3-semester hours available)	072135
Health Information Management (CTAG/College Credit 3-semester hours available)	072140
Billing and Coding	072145
Medical Terminology (CTAG/College Credit 3-semester hours available)	072150
Medical and Dental Office Technology	072155
Human Anatomy and Physiology	072040
Health Science Capstone (Apprenticeship/Paid Work Placement Opportunities)	072105
Data and Use	072160
Transforming Information into Knowldge	072165
Problems and Solutions	072175

Courses in Medical Bioscience Pathway J0

Pathway Courses	Subject Code
Health Science and Technology	072001
Principles and Practices of Biomedical Technologies	072110
Biomedical Engineering	072115
Biochemistry of Health	072120
Biotechnology for Health and Disease	072125
Genetics of Disease	072130
Human Anatomy and Physiology	072040
Health Science Capstone (Apprenticeship/Paid Work Placement Opportunities)	072105
Medical Terminology (CTAG/College Credit -3 semester hours available)	072150
Human Pathophysiology	072045

Data and Use
Subject Code: 072160
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

This foundational course focuses on the use of data and databases within the health field. Students learn what is data, how it is used and sources of data in the medical and health informatics field. They learn how to make sense of data and how data can be applied to our lives. Students will have the opportunity to interact with professionals in the health informatics field.

Transforming Data into Information
Subject Code: 072165
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students learn how to use data to address both patient and industry needs in the health-care field. Students use software to collect and analyze data, develop a health-care registry, create a mobile app mockup and develop forms and systems to solve health-care problems. They will learn how technology can be used to create better information to inform decision making, create information from data, improve public and individual health and to protect patient privacy.

Transforming Information into Knowledge
Subject Code: 072170
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

This advanced course allows students to make improvements in the health-care field by designing solutions using the information, knowledge and technology tools available to health informatics professionals. Students are engaged in the following activities: building a system of sharing information among health-care facilities; using social media tools to reduce diseases in foreign countries; exploring voice recognition software; using a motion-based video gaming console for rehabilitation; and exploring clinical decision rules for improving patient care.

Problems and Solutions
Subject Code: 072175
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

In this advanced course, students study and design solutions to problems facing health-care systems. Students learn how the health-care system works more efficiently and economically, how health-care issues in rural locations can be addressed and how various community organizations work together to improve the health of the community. Students will have the opportunity to interact with professionals in the health informatics fields.

Patient Centered Care
Subject Code: 072050
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will apply psychomotor nursing skills needed to assist individuals in meeting basic human needs. Students will implement interventions following a nursing assistant plan of care. Students will collect the patient's vital signs including temperature, pulse rate, respiration rate, and blood pressure. Students will perform phlebotomy procedures with emphasis on infection prevention, universal precautions, proper patient identification, specimen acquisition, handling, and processing. Additionally, students will observe patients' physical, mental, and emotional conditions and document any change.

Principles of Allied Health
Subject Code: 072035
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

In this first course students will apply knowledge and clinical skills necessary to assess, plan, provide, and evaluate care to patients in varied healthcare settings. Students will apply first aid principles and techniques needed for response to choking, cardiopulmonary resuscitation, and other life-threatening emergencies. Emphasis will be placed on regulatory compliance, patient safety, pathophysiology, and medical interventions. Additionally, this course introduces psychomotor skills needed to assist individuals in meeting basic human needs.

Patient Centered Care and Diagnostics
Subject Code: 072055
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

In this course, students establish and implement treatment plans while providing primary nursing care. Topics include pharmacology, phlebotomy, mental health nursing and acute care nursing. Students use diagnostic techniques to develop patient health assessments. Emphasis is placed on the synthesis of information gathered through health history, observation, and the detection of deviations and variations from normal physical characteristics. In addition, students learn the legal and ethical principles needed to function within the scope of practice.

Lifespan Development and Medical Intervention - 1 credit
Subject Code: 072060
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students gain necessary skills and knowledge to meet the needs of individuals from infancy through the human life cycle in a safe, legal, and ethical manner using the nursing process. Topics include physical, psychological, and cultural variations associated with maturing and aging. Emphasis will be placed on regulatory compliance, patient assessment, patient safety, and medical interventions. Additionally, students use psychomotor nursing skills to assist in day-to-day patient care activities.

Mental Health
Subject Code: 072065
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students learn contemporary mental health theories related to psychiatric disorders and mental diseases. Students will differentiate between stress, anxiety, and crisis, and identify methods to maintain mental health, including problem-solving techniques, treatment and intervention strategies. Students will assess, plan, implement and evaluate the mental health needs of the client. Additionally, students will use therapeutic communication techniques and be able to discuss documentation guidelines and the plan of care with the patient.

Surgical Support
Subject Code: 072070
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students demonstrate knowledge and skill necessary to carry out delegated tasks associated with the safe and efficient operating room support functions and related procedures. Topics include surgical technology theory, patient care concepts, and sterilization techniques. Students will assist with the passing of instruments and the positioning of patients. Additionally, students will prepare patients for transport to and from surgery, maintain equipment and supplies, and prepare the operating room for surgery.

Emergency Medical Technician
Subject Code: 170345
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Emergency Medical Technicians are first responders who provide basic medical care to sick and injured people. In this course, students will learn the knowledge and skills necessary to provide lifesaving first aid. Students will assess, diagnose, and treat a variety of illnesses and injuries in the process of providing pre-hospital care. Students who successfully complete this course at a chartered institution will be eligible to take the National Registry Exam for Ohio EMT certification.

Dental Technology
Subject Code: 072075
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will demonstrate knowledge and skills associated with the practice of dentistry. Topics include principles of dental procedures and comprehensive dental care; infection control in dentistry; and dental specialties including radiology and laboratory procedures. Students will perform chair-side assisting techniques including instrument sterilization, fluoride applications, dietary analysis, and assisting physicians. Emphasis is given to terminology, instruments and equipment, and patient communication. Additionally, students maintain accounts and inventory, records and appointments.

Dental Radiography
Subject Code: 072076
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will perform procedures to expose, process, and interpret dental radiographs. Students will apply knowledge of radiation physics, infection prevention and quality control standards that are appropriate to the clinical setting. Students will apply effective communication skills for interacting with diverse patient populations and proper procedure documentation according to business and industry standards.

Oral Diagnosis and Treatment Planning
Subject Code: 072080
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students gain knowledge of head and neck anatomy with a focus on the oral cavity and teeth. They will study bone structure, cosmetic dentistry, and tooth identification and numbering systems. Students gain knowledge of chemical and physical properties of dental materials, their indications for use, and proper manipulation of the materials. Students perform radiographs, impressions, pouring, trimming, and wax bites methods and techniques. Additionally, students educate the patient on dental procedures and comprehensive dental care.

Pharmacology
Subject Code: 072085
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will apply the principles of pharmacology in order to read, interpret and dispense prescriptions. They will learn how medications are classified and administered. Students will study the impact of drugs on different systems of the body, interaction of drugs, side effects and effectiveness in relation to dosages.

Respiratory Technology
Subject Code: 072090
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will be able to collaborate with the respiratory therapist to administer care to patients with heart and lung disorders requiring humidity, medial gas and aerosol therapies. Students will perform diagnostic tests, clean and maintain equipment. Students observe patient responses and progress. Students apply concepts of infection control, basic therapeutic and diagnostic modalities.

Opticianry and Vision Care
Subject Code: 072095
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

In this course, students apply optometric examination techniques and applications. Topics include visual acuity, stereopsis, color vision, and Amlser grid. Additionally, students perform patient assessments; demonstrate medical interviewing techniques, collect health history content and prepare medical record documentations. Students will assist patients in frame selection and fittings and educate patients in comprehensive vision care.

Clinical Laboratory Techniques - 1 credit
Subject Code: 072100
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program.
2. Successfully complete secondary course and earn a qualifying score of 60 or higher on the End of Course examination

Students will apply practical application of a wide range of clinical duties. Topics covered will include hematology, urinalysis, hematopoiesis processes, body chemistry, microbiology, and blood typing. Students will perform laboratory exercises illustrating principles of the cell and human physiology. Emphasis is given to safe handling, collection procedures, and preparation of specimens. Additionally, students will correlate and document clinical findings and maintain quality management in a clinical laboratory.

Health Information Technology
Subject Code: 072135
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years of graduating from an approved career-technical education institution.
2. Successfully complete secondary course and earn a qualifying score of 65 or higher on the end-of-course examination.

This course introduces electronic health information systems, designs, implementation, and application. Students gain knowledge and skills in techniques for managing and maintaining electronic health data and compilation, analysis of healthcare statistics, research protocols and techniques. Topics include imaging technology, information security and integrity, data dictionaries, basic statistical principles, databases, registries, descriptive statistics, research protocol monitoring, including data collection and analysis, data sources/sets, archival systems, and quality and integrity of healthcare data
.

Health Information Management
Subject Code: 072140
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years of graduating from an approved career-technical education institution.
2. Successfully complete secondary course and earn a qualifying score of 65 or higher on the end-of-course examination

Students will collect and analyze health care data to prepare medical records. Topics include managing patient health information, administering computer systems for records management, and coding diagnosis and procedures for healthcare services. Students will analyze legal and ethical issues and the role of health records management in the industry.

Billing and Coding
Subject Code: 072145
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students develop, evaluate, and implement billing and record systems for health information data using various classification systems to code and categorize patient information. Topics include health record content and structure, diagnostic coding, legal and compliance requirements. Students will record transactions, process payments, and manage patient accounts. Further, students gain knowledge using coded data to produce and submit claims to insurance companies; reviewing and appealing unpaid and denied claims; and for handling collections on unpaid accounts.

Health Science Capstone - 1 credit
Subject Code: 072105
GRADE OFFERING ☐9 ☐10 ☐11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☒RHS ☒SHCC

The capstone course provides opportunities for students to apply knowledge, attitudes and skills that were learned in the Health Sciences program in a more comprehensive and authentic way. Capstones often include project/problem based learning opportunities that occur both in and away from school. Under supervision of the school and through community partnerships, students may combine classroom learning with work experience. This course can be delivered through a variety of delivery methods including cooperative education or apprenticeship.

Exercise and Athletic Training - 1 credit
Subject Code: 072000
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully complete secondary course and earn a qualifying score of 65 or higher on the End of Course examination.

In this, first course students will apply procedures and techniques used in athletic training and in the care and rehabilitation of athletic injuries and therapeutic exercise. Topics include injury prevention, conditioning, and wound care techniques of the musculoskeletal system. Students will learn techniques in the analysis of mechanical factors related to human movement. In addition, current trends, technology, legal considerations, and the role of exercise science in relationship to other health fields will be emphasized.

Bio-Statistics in Exercise Science and Sports Medicine
Subject Code: 072005
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will use fundamental qualitative analysis to study the human body's responses to exercise. Topics include respiratory response to exercise, metabolism and energy production, body composition, healing rate of tissues, and cardiovascular conditioning. Students will use therapeutic exercise and the application of modalities to restore or facilitate normal function or development. Developing and implementing exercise test protocols, and emergency procedures will be emphasized.

Exercise Physiology and Biochemistry
Subject Code: 072010
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will learn to critically evaluate acute and chronic conditions associated with the human body's responses to exercise. Students will pre-screen individuals to identify the benefits and risks associated with physical activity. Students will coordinate exercise tests in order to measure body compositions, cardiorespiratory fitness, muscular strength/endurance, and flexibility. Emphasis is placed on developing conditioning programs that address pre assessment needs, enhance mobility and build muscle strength.

Nutrition and Wellness - 1 credit
Subject Code: 072015
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will increase their knowledge of comprehensive health and wellness. Students will be able to identify the components of fitness and communicate the relationship between physical fitness, physical performance, injury prevention, and nutritional intake. Students will evaluate an individual's state of nutrition based upon the impact of personal choices and social, scientific, psychological and environmental influences. Further, students will calculate an individual's kilocalorie burn rate and recommend an ideal diet and physical fitness plan.

Fitness Evaluation and Assessment - 1 credit
Subject Code: 072020
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully complete secondary course and earn a qualifying score of 65 or higher on the End of Course examination.

Students will complete comprehensive fitness evaluations and develop individualized training programs. Students will administer lab and field tests of cardiovascular endurance, body composition, joint flexibility and muscular strength, power, and endurance. Emphasis is placed on assessing body composition, neuromuscular flexibility, agility, balance, coordination, and proprioception. Additionally, students will identify components of physical fitness and communicate how physical activity impacts health and wellness.

Athletic Injuries and Prevention - 1.25 credit
Subject Code: 072025
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will identify signs and symptoms of injury and apply emergency procedures and techniques used in the immediate care of athletic-related trauma. Students will learn clinical and field evaluative processes, injury prevention techniques, conditioning techniques, treatment, taping, bracing, and rehabilitation of musculoskeletal injuries and conditions. Students will design and implement conditioning programs, including nutritional considerations and ergogenic aids. Emphasis is placed on the synthesis of information gathered through injury history, observation, and manual muscle testing.

Sports Exercise Psychology
Subject Code: 072030
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students apply practical and theoretical information as it relates to the psychology of sport. Students analyze the reciprocal relations among physical activity, exercise behavior, and biochemical and physiological adaptation. Topics include theories of behavior change, exercise psychology interventions, and the relationship between exercise and mental health. Further, students will identify psychosocial determinants and effects associated with adopting and maintaining an exercise program and develop strategies for promoting optimal performance in athletes.

Medical Terminology
Subject Code: 072150
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☒RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

3. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program

4. Successfully complete secondary course and earn a qualifying score of 60 or higher on the End of Course examination.

This course focuses on the applications of the rules for constructing and defining medical terms with an emphasis on building a working medical vocabulary. Topics include using the appropriate abbreviations and symbols for anatomical, physiological and pathological classifications and the associated medical specialties and procedures. Students will decipher medical terms by identifying and using word elements with an emphasis on derivation, meaning, and pronunciation. Further, students will interpret and translate medical records and documents.

Human Anatomy and Physiology - 1.25 credits
Subject Code: 072040
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☒RHS ☒SHCC

In this course, students will demonstrate knowledge of body systems with emphasis on the interrelationships between structure and physical function. Students will analyze and evaluate how the body systems respond to physical activity, disease, and aging. Students will use data acquisition software to monitor abnormal physiology and body functions (e.g., muscle movement, reflex, respiratory, and voluntary actions). Further, students will analyze descriptive results of abnormal physiology and evaluate clinical consequences.

Medical and Dental Office Technology
Subject Code: 072155
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will apply fundamental principles of communication, leadership, technology and management as it applies to the medical office setting. Students will demonstrate documentation and record keeping procedures set forth by national accrediting organizations.

Health Science and Technology
Subject Code: 072001
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

This first course in the career field provides students an overview of the opportunities available in the healthcare industry. Students will learn fundamental skills in effective and safe patient care that can be applied across a person's lifespan. They will also be introduced to exercise science and sports medicine, the field of biomedical research and the importance of managing health information.

Biomedical Engineering
Subject Code: 072115 * meets graduation requirements for Advanced Science
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

Students learn medical interventions that extend and improve quality of life including gene therapy, use and development of prosthetics, rehabilitation techniques, and supportive care. Students will use 3D imaging, data acquisition software, and current scientific research to design and develop medical

intervention products. Students will demonstrate current and emerging strategies and technologies used for collecting, analyzing, recording and sharing information. In addition, students will develop leadership and team-building skills that promote collaboration.

Biochemistry of Health
Subject Code: 072120
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

This course introduces biochemical methods, analysis, and techniques used in the bioscience research and development industry. Students will learn the chemistry of organic macromolecules, intermediary metabolism and the relationships to the human body. Topics also include structures, properties, functions, reactivity, and synthesis of simple organic molecules. Students will monitor, record, and maintain integrity of equipment and instrumentations; environmental conditions of the facility; and inventory.

Principles and Practices of Biomedical Technologies – 1.25 Credit - Grades 9-12 - MCHS
Subject Code: 072110 * meets graduation requirements for Advanced Science
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

In this first course, students will use concepts, procedures, and equipment common to a professional medical laboratory. Students conduct problem-based studies, apply scientific methodology and use descriptive statistics to communicate and support predictions and conclusions. Students will follow procedures and protocols for handling, transporting, storing, and preparing specimens. Further, students will sample, monitor, and record environmental conditions of the facilities. Emphasis is given to demonstrating professional and ethical behavior associated with the medical field.

Genetics of Disease – 1.25 Credit - Grades 9-12
Subject Code: 072130 * meets graduation requirements for Advanced Science
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students gain knowledge and skill in genetic principles and molecular methods of analysis. Topics include enzymology, protein purification, and gene expression and organization. Students perform bio-molecular applications using knowledge of nucleic acid structure and function, DNA replication, transcription, translation, chromosome structure and remodeling and regulation of gene expression in prokaryotes and eukaryotes. Additionally, students will use electrophoresis to separate nucleic acids and proteins to determine molecular weight.

Biotechnology for Health and Disease – 1 Credit
Subject Code: 072125 * meets graduation requirements for Advanced Science
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

This course explores techniques for extracting, separating, and assaying carbohydrates, lipids, and proteins from biological samples. Topics include mechanisms for regulating metabolism and gene

expression. Students will describe the morphology and process of reproduction of microorganisms important in clinical disease and biotechnology applications. Students will perform assays as a diagnostic tool to detect the presence of a pathogen. Further, students will perform separation techniques including chemical separations, centrifugation, distillation, and filtration and interpret results.

Biochemistry of Health – 1.25 Credit - Grades 9-12

Subject Code: 072120

GRADE OFFERING ☐9 ☐10 ☐11 ☐12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

This course introduces biochemical methods, analysis, and techniques used in the bioscience research and development industry. Students will learn the chemistry of organic macromolecules, intermediary metabolism and the relationships to the human body. Topics also include structures, properties, functions, reactivity, and synthesis of simple organic molecules. Students will monitor, record, and maintain integrity of equipment and instrumentations; environmental conditions of the facility; and inventory.

Biotechnology for Health and Disease – 1.25 Credit - Grades 9-12

Subject Code: 072125

GRADE OFFERING ☐9 ☐10 ☐11 ☐12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

This course explores techniques for extracting, separating, and assaying carbohydrates, lipids, and proteins from biological samples. Topics include mechanisms for regulating metabolism and gene expression. Students will describe the morphology and process of reproduction of microorganisms important in clinical disease and biotechnology applications. Students will perform assays as a diagnostic tool to detect the presence of a pathogen. Further, students will perform separation techniques including chemical separations, centrifugation, distillation, and filtration and interpret results.

Health Science Capstone 1-3 credits

Subject Code: 072105

GRADE OFFERING ☒9 ☒10 ☒11 ☒12

BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☒SHCC

Students enrolled in this class must also be enrolled in one of the other Health Science Career Field courses.

The capstone course provides opportunities for students to apply knowledge, attitudes and skills that were learned in the Health Sciences program in a more comprehensive and authentic way. Capstones often include project/problem based learning opportunities that occur both in and away from school. Under supervision of the school and through community partnerships, students may combine classroom learning with work experience. This course can be delivered through a variety of delivery methods including cooperative education or apprenticeship.

Human Anatomy and Physiology PLTW - 1.25 credits

Subject Code: 072040 * meets graduation requirements for Advanced Science

GRADE OFFERING ☐9 10 ☒11 ☒12

BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☒SHCC

In this course, students will demonstrate knowledge of body systems with emphasis on the interrelationships between structure and physical function. Students will analyze and evaluate how the body systems respond to physical activity, disease, and aging. Students will use data acquisition software to monitor abnormal physiology and body functions (e.g., muscle movement, reflex, respiratory, and voluntary actions). Further, students will analyze descriptive results of abnormal physiology and evaluate clinical consequences.

Human Pathophysiology – 1.25 credit - Grades MCHS
Subject Code: 072045
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

In this course, students will identify the causes, processes, and changes in body organs and tissues that occur with human illness. Topics include identification of clinical characteristics and effects of diseases, mechanisms causing alterations in cellular activity, maintenance of cellular tissue oxygenation, fluid and electrolyte balance, neuroendocrine control of the body, and diagnostic methodology. Students will interpret and use clinical data and patient health history to assemble a comprehensive health assessment.

HOSPITALITY AND TOURISM CAREER FIELD AND PATHWAY

The Hospitality and Tourism Career Field prepares students for careers in various hospitality and tourism disciplines across a variety of industries important to the economic vitality of the State of Ohio. Students may also pursue entrepreneurship within a specific discipline.

Culinary and Foodservice Operations Pathway

Educational programs in culinary and foodservice operations prepare learners for careers in the art and science of food preparation and presentation as well as the skills needed for restaurant management.

Careers for which this pathway prepares students include:

Banquet Setup Employee
Caterer
Catering and Banquet Manager
Executive Chef
Food and Beverage Manager
Line Cook Pastry and Specialty Chef
Personal Chef
Restaurant Manager
Restaurant Owner
Sous Chef

Postsecondary majors for which this pathway prepares students include:

Catering
Culinary Arts
Culinary Science Technology
Hospitality Management
Restaurant and Foodservice Management
Restaurant Owner

Lodging and Travel Services Pathway

Educational programs in lodging and travel service prepare learners for careers in management, marketing and operations of lodging facilities, meetings and events and travel-related services.

Careers for which this pathway prepares students include:

Convention Service Manager
Destination Marketer
Director of Hospitality Sales
Executive Housekeeper
Front Desk Supervisor
Front Office Manager
Gaming and Casino Supervisor
General Manager
Meeting Planner
Reservationist
Rooms Division Manager
Tourism Marketing Specialist
Small Business Owner
Welcome Center Supervisor

Postsecondary majors for which this pathway prepares students include:

Administrative Management Technology
Hotel, Tourism and Event Management
Meeting and Events Planning
Gaming Management
Hotel and Restaurant Management

Courses in Culinary Arts (LO)

PATHWAY COURSES	SUBJECT CODE
Hospitality Fundamentals	330000
Catering and Banquet Service Operations	330025
Fundamentals of Food Production	330100
Contemporary Cuisine	330105
Dining Room Service and Operations	330110
Restaurant Management	330120
Baking and Pastry Arts	330125
Hospitality and Tourism Capstone	330130

Courses in Hospitality (L1)

PATHWAY COURSES	SUBJECT CODE
Hospitality Fundamentals	330000
Event and Food Planning	330021
Catering and Banquet Service Operations	330025
Front Office Management and Operations	330030
Hospitality Management	330035
Travel and Adventure Planning	330040
Dining Room Service and Operations	330110
Hospitality and Tourism Capstone	330130

Hospitality Fundamentals - 1 credit
Subject Code: 330000
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☐RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

5. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
6. Successfully complete secondary course and earn a qualifying score of 68 or higher on the corresponding End of Course examination to earn 2 semesters of college credit.

This first course in the career field will introduce students to culinary arts, foodservice operations, lodging, travel and tourism. Students will obtain knowledge of customer service principles and examine the impact of cultural, historical, social and technological developments on key segments of the industry. They will also apply safety and sanitation techniques to prevent and control injuries, illnesses and diseases in the workplace. Business law, employability skills, leadership and communications will be addressed.

Catering and Banquet Service Operations
Subject Code: 330025
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will design and manage catering and banquet operations. They will recommend types of food functions and food-and-beverage services to clients, create menus for special occasions and events, and determine financial requirements. Students will hire, train, and supervise staff; manage event logistics, operations and service providers; and oversee dining room operations. Customer service; food, equipment and site safety; and high-volume food production will also be addressed.

Fundamentals of Food Production
Subject Code: 330100
GRADE OFFERING ☐9 ☒10 ☒11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

7. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
8. Successfully complete secondary course and earn a qualifying score of 76 or higher on the corresponding End of Course examination to earn 4 semesters of college credit.
9. Students must hold a current ServSafe® Manager Certification offered through the National Restaurant Association (NRA) for an additional 2 semester hours of college credit.

Students will prepare food products and beverages according to standardized recipes. They will apply plating and presentation principles to deliver attractive menu items, establish food specifications and prep lists, and develop ingredient and portion control guides. Safety and sanitation, standard knife skills, and culinary math will be emphasized. Employability skills, leadership and communications will also be incorporated.

Contemporary Cuisine
Subject Code: 330105
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Students must hold a current ServSafe® Manager Certification offered through the National Restaurant Association (NRA) for an additional 2 semester hours of college credit.

Students will prepare regional and international food products and beverages according to standardized recipes. They will research and develop marketable new recipes, plan and design menus, and calculate food requirements and costs. Selection, use, maintenance and storage of commercial equipment, machines, tools and tableware will be emphasized. Food science, inventory management, food presentation, and safety and sanitation will also be addressed.

Dining Room Service and Operations
Subject Code: 330110
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will apply strategies and techniques to identify and meet dining guest needs. They will provide table and beverage service; maintain eating areas, meeting spaces and serving stations; manage online reservations and orders; and monitor table turns, wait lines and table assignments. Nutritional analysis, types of table service, safety and sanitation, cultural intelligence, employability skills and communications will also be addressed.

Restaurant Management
Subject Code: 330120
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully complete secondary course and earn a qualifying score of 66 or higher on the corresponding End of Course examination
3. Students must hold a current ServSafe® Manager Certification offered through the National Restaurant Association (NRA) for an additional 2 semester hours of college credit.

Students will apply management principles to plan, organize and direct restaurant staff toward goal achievement. They will hire, train, and supervise employees; establish processes to facilitate restaurant operations; and plan and design menus. Students will also forecast and schedule food production, establish food specifications, select vendors, calculate costs, and purchase food and nonfood products. Other topics include food science, nutritional analysis, business law and ethics, economics and marketing.

Baking and Pastry Arts
Subject Code: 330125
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Students must hold a current ServSafe® Manager Certification offered through the National Restaurant Association (NRA) for an additional 2 semester hours of college credit.
3. Successfully complete secondary course and earn a qualifying score of 70 or higher on the corresponding End of Course examination

Students will apply food-science principles to prepare and bake breads, desserts and pastries. They will also use specialized decorating and presentation techniques to decorate cakes, cookies, pastries, and other baked goods. Students will select quality ingredients, determine food costs, and research and develop marketable new recipes and food concepts. Personal safety, food safety, and equipment safety will be emphasized.

Hospitality and Tourism Capstone - 1 credit
Subject Code: 330130
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

The capstone course provides opportunities for students to apply knowledge, attitudes and skills that were learned in the program in a more comprehensive and authentic way. Capstones often include project/problem based learning opportunities that occur both in and away from school. Under supervision of the school and through community partnerships, students may combine classroom learning with work experience. This course can be delivered through a variety of delivery methods including cooperative education or apprenticeship.

Event and Food Planning
Subject Code: 330021
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will design and organize meetings and events. They will analyze risks, identify needs and develop strategies for achieving event goals. Students will also set up event facilities, manage event activities and evaluate event success. Other topics addressed in the course include menu development, customer service, people management, simple food production, sales and marketing.

Catering and Banquet Service Operations
Subject Code: 330025
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will design and manage catering and banquet operations. They will recommend types of food functions and food-and-beverage services to clients, create menus for special occasions and events, and determine financial requirements. Students will hire, train, and supervise staff; manage event logistics, operations and service providers; and oversee dining room operations. Customer service; food, equipment and site safety; and high-volume food production will also be addressed.

Front Office Management and Operations
Subject Code: 330030
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully complete secondary course and earn a qualifying score of 77 or higher on the corresponding End of Course examination
3. Successfully complete secondary course and earn a qualifying score of 64 or higher on the corresponding end-of-course examination to earn 2 semesters of college credit for CTCF006 and 3 semester hours of college credit for CTCF008..

Students will develop knowledge and skills needed in the lodging industry. Students will perform front office procedures such as reserving rooms, checking guests in and out, and orienting guests to the lodging property. They will also maintain guest rooms and public areas, develop a housekeeping plan, and establish a schedule for facilities maintenance. In addition, site safety and sanitation, customer service, people management, employability skills, leadership and communications will be emphasized.

Hospitality Management - 1 credit
Subject Code: 330035
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully complete secondary course and earn a qualifying score of 64 or higher on the corresponding End of Course examination for 2 semesters of college credit.

Students will plan, organize, and monitor day-to-day lodging operations. They will use technology to maintain guest room status and accounts, manage lodging property finances, conduct marketing research, and communicate with current and prospective guests. Property sales, property management, people management and strategic planning will also be addressed.

Travel and Adventure Planning
Subject Code: 330040
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will apply knowledge of travel destinations, tourist attractions and events of interest to plan and coordinate travel and tourism activities for customers. They will analyze cultural, historical and environmental factors impacting travel and tourism; examine challenges, opportunities and trends associated with the industry; and develop strategies for promoting travel and tourism. Social media marketing, brand positioning, marketing research and employability skills will also be addressed.

Dining Room Service and Operations
Subject Code: 330110
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will apply strategies and techniques to identify and meet dining guest needs. They will provide table and beverage service; maintain eating areas, meeting spaces and serving stations; manage online reservations and orders; and monitor table turns, wait lines and table assignments. Nutritional analysis, types of table service, safety and sanitation, cultural intelligence, employability skills and communications will also be addressed.

HUMAN SERVICES CAREER FIELD AND PATHWAY

Pathway Cosmetology and Barbering Pathway

Students interested in personal care services will apply the skills and knowledge they learn to enhance clients' personal and professional images through physical and personal appearance services. Services will include but are not limited to, hair design and styling, skin and nail care.

Courses in Cosmetology Pathway (M1)

PATHWAY CORE	SUBJECT CODE
Microbiology and Infection Control	174115
Trichology	174120
Fundamentals of Hair Cutting and Styling[1]	174125
Advanced Hair Cutting and Styling	174130
Fundamentals of Chemical Services	174135
Advanced Chemical Services	174140
Hand & Foot Treatment Fundamentals and Enhancements	174145
Skin Care Fundamentals and Enhancements	174150
Salon Operations and Communications	174155
Human Services Capstone[2]	174010

[1]First course in the Career Field; [2]Does not count as one of the required four courses

Microbiology and Infection Control
Subject Code: 174115
GRADE OFFERING ☐9 ☒10 ☒11 ☒12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will learn basic bacteriology, infection control, and salon safety practices. Students will be able to recognize infectious disorders and contagious diseases and learn the dispensary requirements, product storage, and requirements of the laws and rules, which regulate the cosmetology industry in Ohio.

Trichology Subject
Code: 174120
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will learn the anatomy of the head and scalp, structure of the hair and various techniques and procedures for analyzing hair, scalp disorders and diseases. Students will be able to determine hair porosity, elasticity, density, texture and growth patterns as well as conduct chemical tests for treated hair and ability to recommend corrective scalp treatment.

Fundamentals of Hair Cutting and Styling
Subject Code: 174125
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will learn basic shampooing, conditioning and haircutting including trimming, wet styling and thermal styling techniques when working with natural and synthetic hair. Students will also learn infection control and safety along with the science of ergonomics.

Advanced Hair Cutting and Styling - 1 credit
Subject Code: 174130
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will learn advanced cutting and formal styling using specialized equipment and techniques. This course offers enhanced training in current trends and razor techniques.

Fundamentals of Chemical Services
Subject Code: 174135
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will apply basic skills, knowledge, and safety practices when giving permanent/chemical waves, curl re-forming, chemical relaxers and hair color techniques to include tinting, highlighting, bleaching, and foiling.

Advanced Chemical Services
Subject Code: 174140
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will learn advanced chemical services using specialized products and techniques. Students will do advanced coloring, dimensional coloring, corrective techniques, texturizing, and advanced chemical wave wrapping techniques.

Hand & Foot Treatment Fundamentals and Enhancements - 1 credit
Subject Code: 174145
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will learn the knowledge and skills to perform both manicures and pedicures. They will learn how to maintain personal hygiene and infection control. Students will give plain/oil manicures, pedicures, and hand/arm & foot/leg massages. Enhanced hand and foot treatments using specialized products and techniques will be performed.

Skin Care Fundamentals and Enhancements
Subject Code: 174150
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will apply the principles of anatomy, skin analysis, infection control and safety to safe hair removal, skincare treatments, and facial massage. Students will use electrical and manipulative facial treatments including masks, packs, make-up techniques. Students will also learn advanced skin care treatments, targeted massage, and enhancement applications using specialized products and techniques.

Salon Operations and Communications
Subject Code: 174155
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will learn the fundamentals of managing a cosmetology salon. Students will learn about employment and customer liability, insurance, leases, record keeping, communication, and sales.

Human Services Capstone
Subject Code: 174010
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

The capstone course provides opportunities for students to apply knowledge, attitudes and skills that were learned in Human Resources programs in a more comprehensive and authentic way. Capstones often include project/problem-based learning opportunities that occur both in and away from school. Under supervision of the school and through community partnerships, students may combine classroom learning with work experience. This course can be delivered through a variety of delivery methods including cooperative education or apprenticeship.

TECHNOLOGY

The Information Technology Career Field prepares students for careers in Information Support and Services (ISS), Interactive Media (IM), Network Systems (NS) and Programming and Software Development (PSD).

Information Support and Services Pathway

Information Support and Services program areas will prepare students for careers dealing with information technology (i.e., operations, support, deployment/integration). Students will gain the necessary technical and academic skills to implement computer systems and software, provide technical assistance and manage information systems.

Careers for which this pathway prepares students include:

Application Support Specialist
Computer Support Specialist
Help Desk Technician
Product Support Engineer

Postsecondary majors for which this pathway prepares students include:

Computer and Information Sciences and Support Services
Computer Science
Computer Software and Media Applications
Information Services

Interactive Media Interactive Pathway

Media program areas will prepare students for careers using multimedia technology to develop online products for business, training, entertainment, communications and marketing. Students will gain the necessary technical and academic skills to create, design and produce interactive media products and services.

Careers for which this pathway prepares students include:

Desktop Publisher
Multimedia Specialist
Webmaster
Website Developer

Postsecondary majors for which this pathway prepares students include:

Digital Communication and Media/Multimedia
Digital/Multimedia and Information Resources Design
Prepress/Desktop Publishing and Digital Imaging
Design Web/Multimedia Management and Webmaster

Network Systems Pathway

Network Systems program areas will prepare students for careers dealing with network systems analysis, planning and implementation. Students will gain the necessary technical and academic skills to design, install, maintain and manage network systems.

Careers for which this pathway prepares students include:

Network Technician
Operations Technician
Systems Integration Advisor
Cybersecurity Specialist

Postsecondary majors for which this pathway prepares students include:

Computer Engineering
Integrated Media and Technology
Project Management
Telecommunications

Programming and Software Development Pathway

Programming and Software Development program areas will prepare students for careers using technical and academic skills to design, develop, test, document, implement and maintain computer software and database systems.

Careers for which this pathway prepares students include:

Application Developer
Application Support Specialist
Database Administrator
Database Designer

Postsecondary majors for which this pathway prepares students include:

Computer Science
Information Science/Studies
Software Engineering
Video Game Development

Cybersecurity Pathway

The Cybersecurity program area will prepare students for careers using technical and academic skills to design, develop, implement, and test secure information technology systems.

Careers for which this pathway prepares students include:

Cybersecurity Specialist
Security Administrator
Network Technician
Network Administrator
Security Consultant/Specialist Computer Technician

Postsecondary majors for which this pathway prepares students include:

Cybersecurity
Computer Science
Information Systems
Software Engineering
Digital/Computer Forensics

Courses in Interactive Media Pathway N1

Pathway Courses	Subject Code
Information Technology	145005
Design Techniques (CTAG/College Credit 3-semester hours available)	145095
Creating and Editing Digital Graphics (CTAG/College Credit 3-semester hours available)	145100
Multimedia and Image Management Techniques (CTAG/College Credit 3-semester hours available)	145105
Video and Sound (CTAG/College Credit 3-semester hours available)	145110

Animation (CTAG/College Credit 3-semester hours available)	145115
3-D Techniques (CTAG/College Credit 3-semester hours available)	145120
Interactive Application Development (CTAG/College Credit 3-semester hours available)	145125
Web Design (CTAG/College Credit 3-semester hours available)	145010
Information Technology Capstone (Apprenticeship/Paid Work Placement Opportunities)	145015
Computer and Mobile Applications	145020
Programming (CTAG/College Credit 3-semester hours available)	145060
Object Oriented Programming (CTAG/College Credit 3-semester hours available)	145065
Visual Programming (CTAG/College Credit 3-semester hours available)	145070
Systems Analysis and Design	145075
Game Design	145090
Computer and Mobile Applications	145020
Systems Analysis and Design	145075
Unmanned Aircraft Systems	177024

Courses in Network Systems Pathway N2

Pathway Courses	Subject Code
Information Technology	145005
Computer Hardware (CTAG/College Credit 3-semester hours available)	145025
Computer Software (CTAG/College Credit 3-semester hours available)	145030
Networking (CTAG/College Credit 3-semester hours available)	145035
Network Operating Systems (CTAG/College Credit 3-semester hours available)	145040
Network Management (CTAG/College Credit 3-semester hours available)	145045
Network Security (CTAG/College Credit 3-semester hours available)	145050
Routing and Switching	145055
Web Design (CTAG/College Credit 3-semester hours available)	145010
Information Technology Capstone (Apprenticeship/Paid Work Placement Opportunities)	145015
Video and Sound (CTAG/College Credit 3-semester hours available)	145110
Database Administration	145080
Programming (CTAG/College Credit 3-semester hours available)	145060
Object Oriented Programming (CTAG/College Credit 3-semester hours available)	145065
Visual Programming (CTAG/College Credit 3-semester hours available)	145070
Computer and Mobile Applications	145020

Courses in Cybersecurity Pathway N4

Pathway Courses	Subject Code
Information Technology	145005
Cybersecurity	146005
Computer Hardware (CTAG/College Credit 3-semester hours available)	145025
Computer Software (CTAG/College Credit 3-semester hours available)	145030
Networking (CTAG/College Credit 3-semester hours available)	145035
Network Operating Systems (CTAG/College Credit 3-semester hours available)	145040
Network Management (CTAG/College Credit 3-semester hours available)	145045
Network Security (CTAG/College Credit 3-semester hours available)	145050
Routing and Switching	145055

Programming (CTAG/College Credit 3-semester hours available)	145060
Cybersecurity Defense and Reinforcement	146010
Cybersecurity Testing and Response	146015
Information Technology Capstone (Apprenticeship/Paid Work Placement Opportunities)	145015

Computer Skills and Applications – 1 Credit

Course Code: 04011

GRADE OFFERING ☒9 ☐10 ☐11 ☐12

BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

Prerequisite: All freshmen are required to take this course.

Keyboarding, in addition to being the primary means of communication in the business world, is fast becoming the most popular method of corresponding in an individual's personal and professional life. A student will learn the skills necessary for operating a PC for personal and professional use. These skills include learning the keyboard, developing speed with an emphasis on accuracy, becoming familiar with format procedures, and techniques used in formatting documents and design such as centering, simple tabulations, personal notes/letters, business letters, reports, and outlines all using correct grammar, capitalization, punctuation and proofreading skills. Other skills can include those needed to type manuscripts and resumes by utilizing Microsoft Office 2016 Software for word processing and information processing and for creating Powerpoint presentations.

Introduction to Computer Technology - 1 Credits

Course Code: 1170

GRADE OFFERING ☐9 ☒10 ☐11 ☐12

BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: 04011, All sophomores are required to take this course.

Introduction to Computer Technology is designed to prepare students for high school as well as college courses. The Microsoft Office 2016 suite will be utilized, as well as various internet resources. This course will contain more complete training in Office 2016, G Suite and Apps as well as the internet resources available. **This course is a good foundation for the SHCC BAM program or Interactive Media courses.** Students enrolled in this course may participate in Business Professionals of America (BPA).

Computer Science Discoveries – 0.5 credits

Course Code: 11651

GRADE OFFERING ☐9 ☒10 ☒11 ☒12

BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

Prerequisite: **04011 and 1170**

Computer Science Discoveries (CS Discoveries) is an introductory computer science course that empowers students to create authentic artifacts and engage with computer science as a medium for creativity, communication, problem solving, and fun.

Computer Science Principles– 0.5 credits

Course Code: 11652

GRADE OFFERING ☐9 ☐10 ☐11 ☐12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Prerequisite: **1165 Computer Science Discoveries**

Computer Science Principles introduces students to the foundational concepts of computer science and challenges them to explore how computing and technology can impact the world. More than a traditional introduction to programming, it is a rigorous, engaging, and approachable course that explores many of the foundational ideas of computing so all students understand how these concepts are transforming the world we live in.

Design Techniques – 1.25 Credit

Course Code: 145095

GRADE OFFERING ☒9 ☒10 ☒11 ☒12

BUILDING OFFERING ☐BHS ☒MCHS ☒RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

2. Students must pass the corresponding End-of-Course (WebXam^{tm}) examination with a qualifying score of 55 or higher.
3. Students must work with their secondary institution to ensure that their official high school transcript, official WebXam^{tm} score, and the $(CT)^2$ Verification Form are submitted to the post-secondary institution where the student chooses to enroll. The post-secondary institution must also be a part of the statewide agreement or offer the career-technical discipline in which to facilitate credit transfer.
4. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program

Students will learn techniques for transforming photographic images through the use of digital cameras, computers and mobile devices. To accomplish this, they will learn software photo editing techniques including layering, color correction, masking, and special effects using current commercial and open source programs and applications.

Creating and Editing Digital Graphics – 1.25 Credit

Course Code: 145100

GRADE OFFERING ☐9 ☒10 ☒11 ☒12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will learn to design, develop, and produce interactive media projects, web sites, and social media contexts. Students will demonstrate methods of creating professional quality media using commercial and open source software.

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Students must pass the corresponding End-of-Course (WebXam[tm]) examination with a qualifying score of 55 or higher.
2. Students must work with their secondary institution to ensure that their official high school transcript, official WebXam[tm] score, and the $(CT)^2$ Verification Form are submitted to the post-secondary institution where the student chooses to enroll. The post-secondary institution must also be a part of the statewide agreement or offer the career-technical discipline in which to facilitate credit transfer.
3. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program

This class will commonly be taught using Adobe Photoshop.

<u>Web Design</u> – 1.25 Credit – Grade 7-12 –MCHS, RHS
Course Code: 145010
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☒RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Students must pass the corresponding End-of-Course (WebXam[tm]) examination with a qualifying score of 55 or higher.
2. Students must work with their secondary institution to ensure that their official high school transcript, official WebXam[tm] score, and the $(CT)^2$ Verification Form are submitted to the post-secondary institution where the student chooses to enroll. The post-secondary institution must also be a part of the statewide agreement or offer the career-technical discipline in which to facilitate credit transfer.
3. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program

Students will learn the dynamics of the Web environment while pursuing an in-depth study of both Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS). Web based protocols such as FTP, TCP/IP, and HTTP will be addressed. Students will create a website with tag text elements, special characters, lines, graphics, hypertext links, and graphical tables.

<u>Multimedia and Image Management Techniques</u> – 1.25 Credit
Course Code: 145105
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

Students will apply principles of image creation, management procedures, and multimedia techniques as they create, revise, optimize, and export graphics for video, print, and web publishing. The course will address issues related to web-based publishing, social media, and security. Students will utilize current commercial and open source languages, programs, and applications.

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Students must pass the corresponding End-of-Course (WebXam[tm]) examination with a qualifying score of 60 or higher.
2. Students must work with their secondary institution to ensure that their official high school transcript, official WebXam[tm] score, and the $(CT)^2$ Verification Form are submitted to the post-secondary institution where the student chooses to enroll. The post-secondary institution must also be a part of the statewide agreement or offer the career-technical discipline in which to facilitate credit transfer.
3. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program

Programming
Course Code: 145060
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:
1) Matriculate to an institution of higher education with an approved or comparable program within 3 years of graduating from an approved career-technical education institution.
2) Successfully complete secondary course and receive a qualifying score of 55 or higher on the end-of-course examination.

In this course, students will learn the basics of building simple interactive applications. Students will learn the basic units of logic: sequence, selection, and loop. Students will apply algorithmic solutions to problem-domain scenarios. Students will gain experience in using commercial and open source languages, programs, and applications.

Routing and Switching
Course Code: 145055
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will learn the functions, characteristics, and operations of routers and switches. Students will learn about wireless network standards, components, and the role that routers play in enabling communications across multiple networks. Students will troubleshoot the routing process. Students will examine the use of Virtual Local Area Networks (VLANs) to create logically separate networks.

Systems Analysis and Design
Course Code: 145075
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will learn the theory and practice of software testing and develop an understanding of the analysis and design phases of software development. Students will effectively use appropriate programming languages and software patterns to improve software development. A variety of commercial and open source programs, applications, and tools will be used.

Visual Programming

Course Code: 145070
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years of graduating from an approved career-technical education institution.
2. Successfully complete secondary course and earn a qualifying score of 50 or higher on the end-of-course examination
3. OR provide proof of successful completion of the MTA Exam 98-372 (Microsoft .NET Fundamentals) or current equivalent.

Students will create event-driven programs using object oriented programming techniques for use in web based and standalone applications. Students will map out, design, and test computer applications, web applications, and mobile applications. Both commercial and open source programs and applications will be used.

Video and Sound
Course Code: 145110
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Students must pass the corresponding End-of-Course (WebXam^{tm}) examination with a qualifying score of 60 or higher.
2. Students must work with their secondary institution to ensure that their official high school transcript, official WebXam^{tm} score, and the $(CT)^2$ Verification Form are submitted to the post-secondary institution where the student chooses to enroll. The post-secondary institution must also be a part of the statewide agreement or offer the career-technical discipline in which to facilitate credit transfer.
3. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program

Students will create professional video and audio productions for distribution in traditional and new media channels. Students will plan, produce, edit, and launch media products. Students will develop scripts and storyboards, compose shots and operate cameras, capture sounds using microphone hardware, apply special effect techniques, and edit to achieve the final product. Students will be able to use animation and graphic design for video.

Networking
Course Code: 145035
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program.
2. Successfully complete the ODE secondary courses below and earn a qualifying score on the corresponding End of Course examination(s).
    a. Course 1: Networking (145035), qualifying score of 60 or higher, and
    b. Course 2: Network Management (145045) qualifying score of 50 or higher.
3. Or, the student must hold the current CompTIA Network+ certification, Cisco Certified Network Associate (CCNA) certification, Cisco Certified Entry Networking Technician (CCENT) certification, or pass Cisco I and II semester tests (proctored and closed book test environment).

Students will install, configure, and troubleshoot network hardware and peripherals. Students will learn networking by exploring the OSI model, network topologies, and cabling. Students will design simple networks, know how to select physical devices, and be able to configure the equipment. Knowledge and skills relating to the operation and usage of network protocols will be developed.

Network Operating Systems
Course Code: 145040
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program.
2. Successfully complete the ODE secondary courses and receive a qualifying/passing score on the corresponding ODE "End of Course" examination(s).
    a. Course 1: Computer Software (145030), qualifying score of 60 or higher and
    b. Course 2: Network Operating Systems (145040) qualifying score of 55 or higher on the "End of Course" examination.
3. Or, the student must hold the current Microsoft Client Operating System certification (exam #70-620 or 70-680 or current equivalent exam)
4. Or, the student must hold one of the following current certifications: CompTIA Linux +, Linux Professional Institute Junior Exam, Red Hat Certified System Administrator, or Novell Certified Linux Administration.

Students will perform desktop client administrator duties by providing support for users in various work environments including professional offices, small businesses, work groups, departments, and/or corporate information services (IS). Students will learn to install, configure, and update commercial and open source network operating systems.

Network Management
Course Code: 145045
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will perform network administrator duties by installing and configuring network hardware, software, and peripherals. Abiding by IEEE standards and the Open Source Interconnection (OSI) model, students will create advanced networks, assign user rights, and develop knowledge and skills of network hierarchy. Students will demonstrate mastery of topologies, remote connectivity, wireless networking, TCP/IP, network security, and network troubleshooting.

Network Security
Course Code: 145050
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course (must choose to submit for credit either CTITOO6 or CTIT015 but not both):

CTIT006 Introduction to User Support Credits: 3 Semester Hours

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program.
2. Successfully complete the secondary course with a "C" or better, and receive a qualifying/passing score of 63 or higher.
3. Or, the student must hold the current Microsoft Enterprise Desktop Support Technician credential (exam #70-685 or current equivalent exam).

CTIT015 CompTIA Security + Credits: 3 Semester Hours

4. Successfully complete the secondary courses and receive a qualifying/passing score of 55 or higher.
5. Or, the student must hold the current CompTIA Security + certification (exam # SY0-301 or current equivalent exam).

This course will address securing networks and operating systems. Students will learn to secure network communications, computer hardware, and network software. Topics included are network security theory, cryptography, security architecture, firewalls, VPNs, IP Security, and methods of protection.

Object Oriented Programming
Course Code: 145065
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years of graduating from an approved career-technical education institution.
2. Successfully complete secondary and earn a qualifying score of 55 or higher on the end-of-course examination.

Students will learn to represent programming concepts as "objects" that have data fields and associated procedures known as methods. Students will implement classes such as support static, instance method, inheritance, polymorphism, exception handling, and object serialization. A variety of commercial and open source programs and applications will be used.

Game Design
Course Code: 145090
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

This course will prepare students to design and program games using commercial and open source programs and applications. Students will learn industry standard programming language constructs to

write programs that integrate classes, class methods, and class instances. Students will learn input method handling, animation, collision detection, game physics, and basic artificial intelligence.

Information Technology
Course Code: 145005
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

This first course in the IT career field is designed to provide students with a working knowledge of computer concepts and essential skills necessary for work and communication in today's society. Students will learn safety, security, and ethical issues in computing and social networking. Students will also learn about input/output systems, computer hardware and operating systems, and office applications.

Information Technology Capstone
Course Code: 145015
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

The capstone course provides opportunities for students to apply knowledge, attitudes and skills that were learned in their information technology program in a more comprehensive and authentic way. Capstones often include project/problem based learning opportunities that occur both in and away from school. Under supervision of the school and through community partnerships, students may combine classroom learning with work experience. This course can be delivered through a variety of delivery methods including cooperative education or apprenticeship.

Computer Software
Course Code: 145030
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program.
2. Successfully complete the secondary course and receive a qualifying/passing score on the "End of Course" examination of 60 or higher.

Students will apply knowledge and skills of commercial and open source operating systems in portable, stand alone, and networked devices. Students will install a variety of operating systems manually and using remote assistance. They will learn to configure, modify, and troubleshoot operating systems. Desktop virtualization, system security, and operating system history will be addressed.

Cybersecurity
Course Code: 146005
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will learn the components of cybersecurity and the role each plays in preventing, detecting and mitigating vulnerabilities and attacks. Components include the security of the network infrastructure,

security of the systems, and the prevention, detection, and mitigation of common vulnerabilities and attacks. Throughout this course, students will examine and implement security safeguards for desktop, network, and application security.

Cybersecurity Defense and Reinforcement
Course Code: 146010
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will learn the process of systematic defense for information technology systems. They will apply knowledge and skills required to secure network resources including infrastructure, operating systems, data, and applications. Students will apply the knowledge of disaster recovery and business continuity.

Cybersecurity Testing and Response
Course Code: 146015
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will apply the skills of systematic testing and planned response to mitigate security concerns in information technology systems. They will describe the need for security, identify and explain security risks, and implement security safeguards. Students will manage threats, deploy countermeasures, and establish strategies to protect business information using risk and incident management.

Database Administration
Course Code: 145080
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will learn about user rights and responsibilities, concurrency security, reliability, backup and recovery to perform tasks involved in the administration and management of a database system. Students will design, extract and transform data ensuring data quality. Knowledge and skills relating to reporting systems, data warehouses, and data mining will be developed.

3-D Techniques
Course Code: 145120
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Students must pass the corresponding End-of-Course (WebXam^{tm}) examination with a qualifying score of 55 or higher.
2. Students must work with their secondary institution to ensure that their official high school transcript, official WebXam^{tm} score, and the $(CT)^2$ Verification Form are submitted to the post-secondary institution where the student chooses to enroll. The post-secondary institution must also be a part of the statewide agreement or offer the career-technical discipline in which to facilitate credit transfer.

3. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program

Students will use current industry standard commercial and open source programming software to create 3-D visual elements in a web or standalone environment. Students will learn aspects of computer visual production, thought, and application; to map out, design, and test three-dimensional elements.

Animation
Course Code: 145115
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Students must pass the corresponding End-of-Course (WebXam^{tm}) examination with a qualifying score of 55 or higher.
2. Students must work with their secondary institution to ensure that their official high school transcript, official WebXam^{tm} score, and the $(CT)^2$ Verification Form are submitted to the post-secondary institution where the student chooses to enroll. The post-secondary institution must also be a part of the statewide agreement or offer the career-technical discipline in which to facilitate credit transfer.
3. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program

Students should be able to create animations using software and have some basic knowledge of scripting.

Students will use animation and storyboarding techniques to plan the production of an animation project. Students will design from script and storyboard actions in the pre-production planning process. Students will use commercial and open source digital animation software to create finished animations, cartoons, and other short movies. They will accomplish this using animated text, character movements, voice, background sound, sound effects, camera movements, and multiple scenes.

Computer and Mobile Applications
Course Code: 145020
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will learn to create applications for mobile devices using a variety of commercial and open source software. They will install these applications, modify them, and develop customer service skills to handle user issues. Knowledge and skills related to customer service in professional offices, small businesses, departments, work groups, and corporate information services will be addressed.

Computer Hardware
Course Code: 145025
GRADE OFFERING ☐9 ☐10 ☐11 ☐12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program.
2. Successfully complete the ODE secondary courses and receive a qualifying/passing score on the corresponding ODE "End of Course" examination(s).
    a. Course 1: Computer Software (145030), qualifying score of 60 or higher and
    b. Course 2: Computer Hardware (145025)] qualifying score of 55 or higher.

3. Or, the student must hold the current CompTIA A+ certificate (current exams #220-801 and 220-802 or current equivalent exam).

Students will learn to install, repair, and troubleshoot computer hardware systems. They will perform preventative maintenance practices and learn techniques for maintaining computer hardware security. Communication skills and professionalism in troubleshooting situations will be emphasized.

Aviation Unmanned Aircraft Systems
Subject Code: 177024
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will learn and simulate fundamentals of air traffic control. Subjects taught include principles of aircraft tracking using radar and transponders, controlling aircraft departures, takeoffs, ground operation and in air flight control. Students will learn and simulate techniques of sequencing aircraft approaches and departures using approach control radar. Students will study concepts of meteorology, the flight environment, identification of emergency codes, fundamental aspects of flight and air navigation.

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully completed the secondary course.
3. Successfully complete the secondary course earn a qualifying score on the corresponding end of course examination

LAW AND PUBLIC SAFETY

Technical and professional level careers in judicial, legal, public administration, public safety and protective services and homeland security including public planning, emergency management planning, fire protection, emergency medical services and the criminal justice system.

The Law and Public Safety Career Field prepares students for careers protecting lives and property in the areas of law enforcement, private security, corrections, firefighting and the emergency medical service.

Criminal Justice

Criminal Justice program areas will prepare students for careers in law enforcement, private security and corrections. Students will gain the necessary technical and academic skills to protect lives and property through crime prevention, detection and investigation.

Careers for which this pathway prepares students include:

Crime Lab Technician
Corrections Officer
Police Officer
Security Officer

Postsecondary majors for which this pathway prepares students include:

Criminal Justice/Law Enforcement Administration
Criminology
Crisis/Emergency/Disaster Management
Forensic Psychology
Forensic Science and Technology
Homeland Security
Pre-Law Studies
Security and Loss Prevention Services

Fire

Fire program areas will prepare students for careers in the fire and medical service. Students will gain the necessary technical and academic skills to prevent, respond to and rescue people and property in a fire or medical emergency.

Careers for which this pathway prepares students include:

Emergency Medical Technician
Firefighter

Postsecondary majors for which this pathway prepares students include:

Emergency Care Attendant (Emergency Medical Technology/Technician Ambulance)
Emergency Medical Technology/Technician (EMT Paramedic)
Fire Science/Fire-fighting
Fire Services Administration

Courses in Criminal Justice Pathway (P1)

PATHWAY CORE	SUBJECT CODE
Foundations of Firefighting and Emergency Medical Services[1]	170342
Firefighter I	170343
Firefighter II	170344
Homeland Security Protecting America's Critical Infrastructure	170916
Emergency Medical Technician	170345
The American Criminal Justice System[1]	170911
Security and Protective Services	170912
Police Work and Practice in Public Safety	170913
Investigations and Forensics in Criminal Investigations	170914
The Correctional System and Services	170915
Medical Terminology	072150
Law and Public Safety Capstone[2]	170346

[1]First course in the Pathway; [2]Does not count as one of the required four courses

Foundations of Firefighting and Emergency Medical Services
Course Code: 170342
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Fire Fighting and Emergency Medical Services introduces students to the foundational concepts of firefighting safety and emergency medical services. Students will analyze and practice skills outlined in the Ohio Department of Public Safety Fire protection and Ohio Emergency Medical Services rules and regulations in preparation for Firefighter I&II curriculum and EMT licensure.

Firefighter I
Subject Code: 170343
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

The Firefighter I course prepares students for a career in the fire service. Students learn the history of firefighting, ground operations, fire science, fire suppression, use of protective equipment, rescue equipment, tools and appliances. Students will apply knowledge by training with fire equipment, live fire exercises, and practicing a variety of rescue situations. Students that successfully complete this course at a chartered institution will be eligible to take the Ohio Firefighter I certification test.

Firefighter II
Subject Code: 170344
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

The Firefighter II course builds on the knowledge and skills learned in Firefighter I. In this course students will apply knowledge and skills to advanced training in fire suppression, fire science, rescue,

equipment, tools, appliances, and hazardous materials operations. Students who have completed Firefighter I and successfully complete this course at a chartered institution will be eligible to take the Ohio Firefighter II certification test.

Homeland Security Protecting America's Critical Infrastructure
Subject Code: 170916
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

In Homeland Security, students will learn techniques to secure and protect America's people and infrastructure from natural and manmade disasters. Students will look at a range of issues including cyber security, intelligence gathering, and local emergency planning that can be applied in their own community. Students will also learn to manage critical incidents through training in National Incident Management and the Incident Command System. Students will complete multiple FEMA certifications in this course.

Emergency Medical Technician
Subject Code: 170345
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Emergency Medical Technicians are first responders who provide basic medical care to sick and injured people. In this course, students will learn the knowledge and skills necessary to provide lifesaving first aid. Students will assess, diagnose, and treat a variety of illnesses and injuries in the process of providing pre-hospital care. Students who successfully complete this course at a chartered institution will be eligible to take the National Registry Exam for Ohio EMT certification.

The American Criminal Justice System - 1 credit
Subject Code: 170911
GRADE OFFERING ☐9 ☒10 ☒11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

This first course in the Criminal Justice pathway traces the history, organization, and functions of local, state, and federal law enforcement. Students will study criminal behavior and apply constitutional and criminal law to crime and punishment. Students will learn law enforcement terminology, classifications and elements of crime, and how various court systems are used to judge and punish offenders.

Security and Protective Services - 1 credit
Subject Code: 170912
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Private Security is an ever-expanding industry that requires trained professionals that can detect, deter, and investigate crime. The course focuses on private security measures used to protect lives, property, and proprietary information. Students completing the Ohio Peace Officer Training Academy Private Security

curriculum provided by an approved instructor will be eligible to sit for the OPOTA certification exam as a private security guard.

Police Work and Practice in Public Safety - 1 credit
Subject Code: 170913
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

In this course, students will learn the skills necessary to prevent, detect and react to crime. Students will learn self-defense and subject control techniques, methods to conduct patrols, surveillance, and traffic procedures. Students will understand the ethical and legal responsibilities of police officers on patrol. Additionally, students will learn the operations of police and emergency telecommunication systems.

Investigations and Forensics in Criminal Investigations - 1 credit
Subject Code: 170914
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Forensic Science uses a structured and scientific approach to the investigation of crimes including assault, abuse and neglect, domestic violence, accidental death and homicide. Students will learn the psychology of criminal behavior and apply it to investigative procedures. Students will collect and analyze evidence through case studies and simulated crime scenes such as fingerprint analysis, ballistics, and blood spatter analysis.

The Correctional System and Services - 1 credit
Subject Code: 170915
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

The correctional officer plays a critical role in the criminal justice system. In this course students will learn institutional rehabilitation and community corrections strategies that prepare them for work in a correctional setting. The student will learn the role and responsibilities of a correctional officer including processing inmates, maintaining security in a correctional setting, and understanding inmate mental health needs.

Law and Public Safety Capstone
Subject Code: 170346
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

The course provides opportunities for students to apply knowledge, attitudes and skills that were learned in Law and Public Safety in a more comprehensive and authentic way. Capstones often include project/problem based learning opportunities that occur both in and away from school. Under supervision of the school and through community partnerships, students may combine classroom learning with work experience. This course can be delivered through a variety of delivery methods including cooperative education or apprenticeship.

Medical Terminology

Subject Code: 072150
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☒RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully complete secondary course and earn a qualifying score of 61 or higher on the End of Course examination.

This course focuses on the applications of the rules for constructing and defining medical terms with an emphasis on building a working medical vocabulary. Topics include using the appropriate abbreviations and symbols for anatomical, physiological and pathological classifications and the associated medical specialties and procedures. Students will decipher medical terms by identifying and using word elements with an emphasis on derivation, meaning, and pronunciation. Further, students will interpret and translate medical records and documents.

MANUFACTURING

Courses in Manufacturing Operations Pathway R7

Pathway Courses	Subject Code
Pre-Engineering Technologies	175015
Manufacturing Operations (CTAG/College Credit 3-semester hours available)	175003
Robotics (CTAG/College Credit 3-semester hours available)	175004
Computer Integrated Manufacturing (CTAG/College Credit 3-semester hours available)	175006
Digital Electronics (CTAG/College Credit 3-semester hours available)	175007
Gas Metal Arc Welding	176000
Sheilded Metal Arc Welding	176001
Flux Cored Arc Welding	176002
Gas Tungsten Arc Welding	176003
Machine Tools	176004
Machining with Industrial Lathes	176005
Maching with Industrial Milling Machines	176006
Computer Numerical Control Technology with Industrial Mills and Lathes (CTAG/College Credit 3-semester hours available)	176007
Manufacturing Capstone	176008
Welding Technologies	176009
Principles of Manufacturing	176010
Welding Fabrication	176015
Industrial Maintenance	176020
Industrial Robotics (Potential CTAG/College Credit 3-semester hours)	176025
Hydraulics and Pnematics	010225

Pre-Engineering Technologies
Course Code: 175015
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will acquire knowledge and skills in problem solving, teamwork and innovation. Students explore STEM careers as they participate in a project-based learning process, designed to challenge and engage the natural curiosity and imagination of middle school students. Teams design and test their ideas using modeling, automation, robotics, mechanical and computer control systems, while exploring energy and the environment.

Manufacturing Operations
Course Code: 175003
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☒RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Successfully completed the course.
2. Matriculate to an institution of higher education with an approved or comparable course no later than 3 years after completing the approved secondary program.
3. Earn a passing score on the end of course exam.

Students will learn the production processes applied across manufacturing operations. Students will be able to demonstrate a broad array of technical skills with an emphasis given to quality practices, measurement, maintenance and safety.

Robotics
Course Code: 175004
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☒RHS ☒SHCC

Students will apply the knowledge and skills necessary to program and operate robots, using the teach pendant as the main interface point. Students will learn robotic operations and system configurations. Students will code, compile and debug programs using the robotic programming language.

Computer Integrated Manufacturing
Course Code: 175006M
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☒RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully complete secondary course and earn a qualifying score of 60 or higher on the corresponding End of Course examination

In this course, students will be introduced to all aspects of computer-integrated manufacturing. They will learn about robotics and automation, manufacturing processes, computer modeling, manufacturing equipment and flexible manufacturing systems.

Digital Electronics
Course Code: 175007
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years of completing the approved secondary program.
2. Successfully complete the course.
3. Submitted coursework must include proof of a laboratory component.

NOTE: 4 semester hours of credit can be earned for college course CTEET002- Digital Electronics (OET002)

• Students must include proof of laboratory component with their submission.
Students are introduced to the process of combinational and sequential logic design. The system uses a precise sequence of discrete voltages, representing numbers, non-numeric symbols or commands for input, processing, transmission, storage or display. Engineering standards and methods for technical documentation will also be learned.

Gas Metal Arc Welding
Course Code: 176000
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will use the Gas Metal Arc Welding process (GMAW) to safely join various types of metal. They will cut metals using oxy-fuel processes and perform multiple types of welds and joints in all positions, up to and including overhead. They will select the appropriate type of electrode wire and shielding gas, and they will adjust welding equipment based on the physical characteristics and metal properties. Students will apply quality control factors to evaluate weld quality.

Shielded Metal Arc Welding
Course Code: 176001
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will be able to use the Shielded Metal Arc Welding process (SMAW) to safely join various types of metal. They will perform multiple types of welds and joints in all positions, up to and including overhead. They will select the appropriate type of electrode and adjust welding equipment based on the physical characteristics and properties of the metal. Students will apply quality control factors to evaluate the quality of welds.

Flux Cored Arc Welding

Course Code: 176002
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will be able to use the Flux Cored Arc Welding process (FCAW) to safely join various types of metal. They will perform multiple types of welds and joints in all positions up to and including overhead. They will select the appropriate type of cored electrode wire and adjust welding equipment based on the physical characteristics and properties of the metal. Students will apply quality control factors to evaluate the quality of welds.

Gas Tungsten Arc Welding
Course Code: 176003
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Students will use the Gas Tungsten Arc Welding process (GTAW) to safely join various types of metal. They will perform multiple types of welds and joints in all positions, up to and including overhead. They will select the appropriate type of electrode, filler metal and shielding gas. They will be able to adjust welding equipment based on the physical characteristics and properties of the metal. Students will apply quality control factors to evaluate weld quality.

Machine Tools
Course Code: 176004
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

This course introduces students to all aspects of machining applications in manufacturing. They will be able to perform routine calculations, interpret basic drawings, begin the process of performing accurate measurements and be able to plan simple machining processes. Students will learn the fundamental principles and practices of cutting, drilling and grinding using modern machine tools, hand tools and precision measuring instruments.

Machining with Industrial Lathes
Course Code: 176005
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

This course directs the student in the safe use of different types of manual industrial lathes. Students will use these machine tools to shape, pattern, bore, thread and polish metal and other materials. Students will apply their knowledge of product characteristics, perform necessary calculations, use precision measuring instruments and make all adjustments needed to fabricate products to print dimensions. Students will be able to identify operational problems and provide routine care and maintenance to the lathe.

Machining with Industrial Milling Machines
Course Code: 176006
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

In this course, students are directed in the safe use of manual milling machines. Students apply their knowledge of product characteristics, perform necessary calculations, and use precision measuring instruments and layout equipment to mill products to print dimensions. Students will use these machine tools to shape, cut, drill and bore metal and other materials. Students will be able to identify operational problems and provide routine care and maintenance to the manual mill.

Computer Numberical Control Technology with Industrial Mills and Lathes
Course Code: 176007
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Successfully completed the course.
2. Matriculate to an institution of higher education with an approved or comparable course no later than 3 years after completing the approved secondary program.
3. Earn a passing score on the end of course exam.

In this course, students will use computer numerical control (CNC) programming to mill products comprised of various materials. Students will prepare numerical control programs in positioning systems using standard industrial G and M codes. They will program computerized numerical control mills and lathes.

Manufacturing Capstone
Subject Code: 176008
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

The capstone course provides opportunities for students to apply knowledge, attitudes and skills that were learned in a Manufacturing program in a more comprehensive and authentic way. Capstones often include project/problem based learning opportunities that occur both in and away from school. Under supervision of the school and through community partnerships, students may combine classroom learning with work experience. This course can be delivered through a variety of delivery methods including cooperative education or apprenticeship.

Welding Technologies
Course Code: 176009
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education within 3 years of completing the approved program.
2. Successfully complete the course.
3. Earn a passing score on the end of course exam combined with the required performance based assessment.

Students will use fundamental welding principles involving shielded metal arc, oxyacetylene, gas tungsten and gas metal arc welding in the flat, horizontal and vertical positions. An emphasis is given to electrode selection, equipment setup, operating procedures, welding inspection and testing. Students will learn joint designs and layout and will be introduced to welding codes and standards. Additional topics include employability skills and an emphasis will be given to personal safety.

Principles of Manufacturing
Course Code: 176010
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☒RHS ☐SHCC

Students will apply knowledge and skills required in the application of standard manufacturing practices including planning, design and visualization. Students will learn and apply skills related to interpreting drawings, creating documentation and performing measurements. Additionally, students will use principles and techniques of Computer Numerical Control (CNC), employ scheduling, and practice project evaluation.

Welding Fabrication - 1 credit
CourseCode: 176015
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will apply the knowledge and skills necessary to safely fabricate parts by cutting, drilling, bending, shaping, forming, edging and assembling stock to drawing dimensions. Students will identify weld types, fasteners and adhesives to join materials.

Industrial Maintenance
Course Code: 176020
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Students will apply the knowledge and skills necessary for installing, maintaining and safely troubleshooting modern industrial machinery. Students will learn about pneumatic, hydraulic, mechanical and electrical systems. They will learn to solve practical maintenance problems, read and interpret drawings and maintenance manuals and understand manufacturing process quality practices. Students will troubleshoot electrical controls, sensors and actuators for automated machinery and manufacturing processes.

Industrial Robotics
Course Code: 176025
GRADE OFFERING ☐9 ☐10 ☐11 ☐12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years of completing the approved secondary program.
2. Successfully complete the course.

3. Submitted coursework must include proof of a laboratory component.

Students will apply the knowledge and skills to program, safely operate, and troubleshoot industrial Robots. The students will learn industrial robotic operations and system configurations. Throughout the course, students will code, compile, and debug programs using industrial robotic programming language.

Hydraulics and Pneumatics
Course Code: 010225
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Student Requirements for CTAG Credit: The following steps must occur for secondary students to access college credit for this course:

1. Matriculate to an institution of higher education with an approved or comparable program within 3 years after completing the approved secondary program
2. Successfully complete secondary course and earn a qualifying score of 61 or higher on the corresponding End of Course examination

Students will learn to diagnose, repair and rebuild hydraulic systems and their components. Students will learn the physical and mechanical principles of both hydraulic and hydrostatic operating units. Topics include testing system components and properly maintaining hydraulic and hydrostatic circuits. Students will demonstrate contamination control and system cleanliness in both hydraulic and hydrostatic operating systems. Throughout the course, site and personal safety procedures and business practices are reinforced.

MARITIME

Students enrolled in the Innovative Pathway for Maritime will complete coursework from the Construction Trades, Manufacturing (Welding), and Transportation. The last grading period of the senior year, students will enroll in the Maritime Deckhand training course to earn a Deckhand Certification through Mountwest Community College.

Maritime Occupations I
Subject Code: 170801A - Level 1
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Introduction to deckhand responsibilities. Orientation with the basic rules of the road, safety regulations, basic knot tying and procedures. This course also deals with basic boat systems, requirements of the U. S. Coast Guard on inland waterways. The course is also an introduction to Deckhand Training and the basic

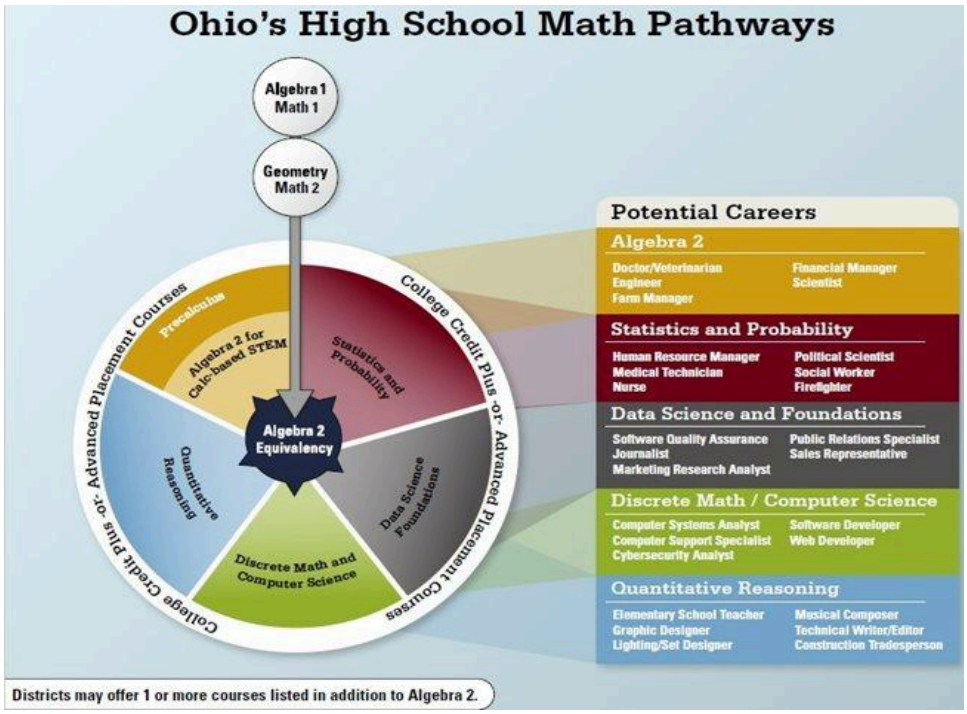
requirements while on deck. This course also includes fire training, man overboard, incapacitation drills and sinking and flooding drills.

Maritime Occupation II
Subject Code: 170801B - Level 2
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

This course deals with a more in-depth look at the Deckhand component. Components such as rigging, throwing lines, tying off barge to shore and barge to barge are instructed. This course will utilize the concept of lead man on the deck. This will be a teaching component of students under the direction of the instructor. The course will expand upon previous trainings required by the U. S. Coast Guard from Maritime Occupations I.

MATHEMATICS

Ohio has launched a *Strengthening Ohio High School* Mathematics *Pathways Initiative*. This initiative addresses new guidance around what courses can be considered Algebra 2 equivalent and how the new pathways lead to postsecondary success. The new pathways were designed with a focus on equity, rigor, relevance, coherence and flexibility.



Suggested Math Pathway:

- **Honors Algebra I ⇨ Honors Geometry ⇨ Honors Algebra II or CCP Mathematics ⇨Statistics, or PreCalculus, or CCP Mathematics ⇨ Calculus or CCP Mathematics**
- **Algebra I ⇨ Geometry ⇨ Mathematical Modeling and Reasoning or Probability and Statistics, or Algebra II ⇨ Mathematical Modeling and Reasoning I or II, or Probability and Statistics, or Algebra II (not previously taken)**

1st high school math course	2nd high school math course	3rd high school math course	4th/5th high school math course
Choose:	**Choose:**	**Choose:**	**Choose:**
Algebra I	**Geometry**	**Mathematical Modeling and Reasoning**	**Mathematical Modeling and Reasoning**
Honors Algebra I	**Honors Geometry**	**Probability and Statistics**	**Probability and Statistics**
		Algebra II	**Algebra II**
		Honors Algebra II	**Honors Algebra II**
		Pre-Calculus *prerequisite Algebra II	**Discrete Math Computer Science**
		Discrete Math Computer Science	**Pre-Calculus** *prerequisite Algebra II
		CCP/AP Math course	**Calculus** *prerequisite Pre-Calculus
			CCP/AP Math course

How do I decide what is the best mathematical pathway for my future?

Visit [OhioMeansJobs K-12 Career Cluster Inventory](#) https://ohiomeansjobs.ohio.gov

Student Name:_____ Date:_____ Year in School: _____

STUDENT DECISION TREE-PART 1

Step 1: Take a Quiz to discover your career interests.

Write your top three clusters based on the survey below.

1. _____
2. _____
3. _____

Step 2: Read about the OhioMeansJobs K-12 Career Clusters.

Pick your top three career clusters to explore. Tip: You may want to start with the career clusters from Step 1, but it is not required.

1. _____
2. _____
3. _____

Step 3: Answer the questions below while thinking about your future.

What is the ***least*** amount of money I am willing to make?

- ☐ Entry Level (Less than $30,000)
- ☐ Middle-Income Jobs ($30,000-$50,000)
- ☐ Upper-Middle Income Jobs ($50,000-$80,000)
- ☐ High-Income Jobs ($80,000-$100,000)
- ☐ Six Figure Jobs (Greater than $100,000)

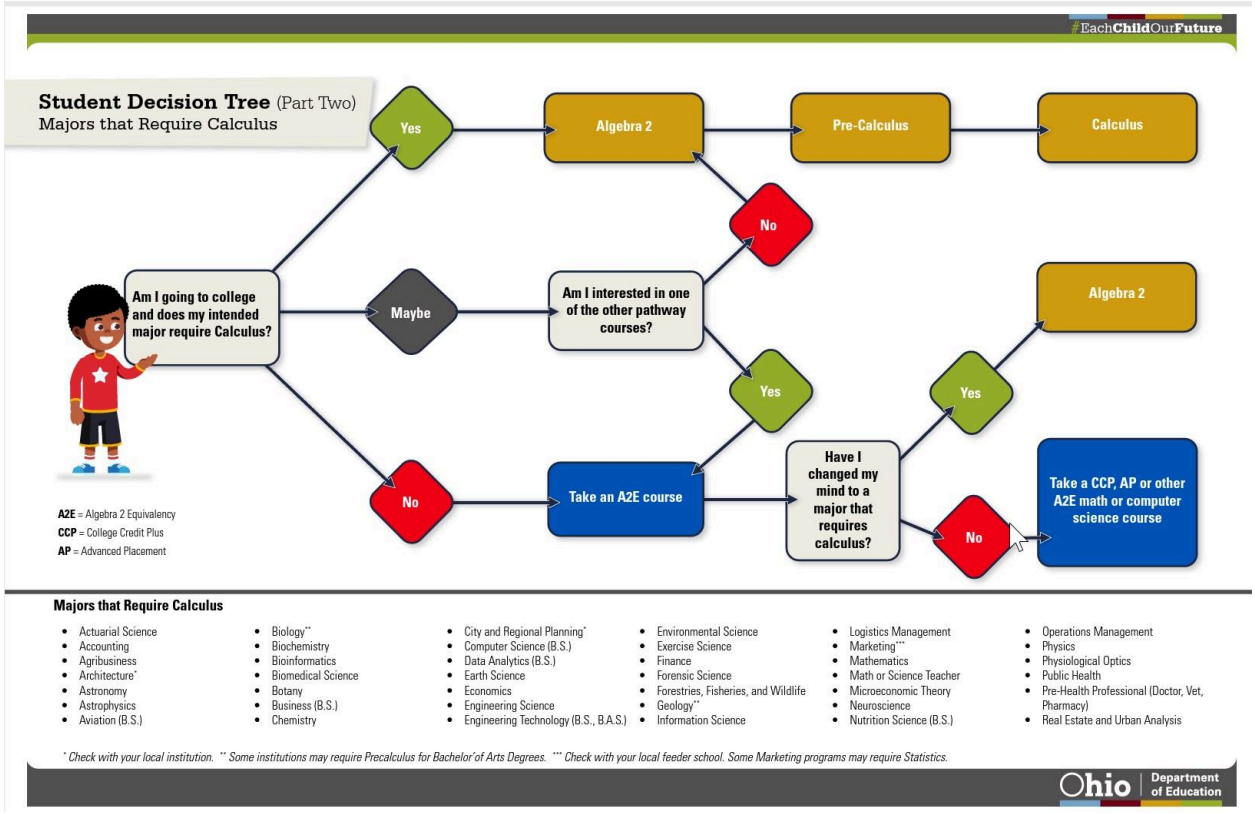
What's the ***maximum*** time I'm willing to invest in postsecondary education?

- ☐ Nothing past high school
- ☐ Certificate (~6-12 Months)
- ☐ Associate Degree (2 years)
- ☐ Bachelor's Degree (4 years)
- ☐ Master's Degree (5-6 years)
- ☐ Doctoral or Professional Degree (8 years)

Step 4: Explore your favorite career clusters with the [OhioMeansJobs Career Clusters Tool](#).

- Visit the website linked above and explore the career clusters you named in Step 2.
- Career pathways are located on the left side of each specific career cluster page. Click on all the pathways and review the available jobs.
- List up to 10 careers you are interested in based on your salary and postsecondary educational preferences?

Career Cluster	Career Pathway	Career	Salary Range	Education/Training Needed



Mathematical Courses for Specific Career Fields

Quantitative Reasoning

Bachelor's or above (non-Calculus)

- Art History
- Communication Studies
- Criminal Justice (Applied degree)
- English
- History
- Human Resources Assistants*
- Intervention Specialist
- Journalism*
- Music
- PreK-5 Elementary Education
- Philosophy
- Public Relations/Advertising*
- Social/Human Services (AAB to BSW)*
- Social Work (AA to BSW)*
- Studio/Fine Arts
- Telecommunication*
- Theatre

Associate degree

- Applied Business (AAS)*
- Applied Marketing (AAB)*
- Computer Network Support Specialists*
- Dental Hygienists*
- Occupational Therapist Assistants*
- Web Developers*

Other Careers

- Agribusiness Systems
- Animal Systems
- Construction
- Design/Pre-Construction
- Environmental Service Systems
- Facility and Mobile Equipment
- Maintenance
- Food Products and Processing Systems
- Lodging
- Logistics Planning & Management Services
- Maintenance/Operations
- Natural Resource Systems Plant Systems
- Power, Structure and Technical Systems
- Recreation, Amusements, and Attractions
- Restaurants and Food/Beverage Services
- Sales and Service
- Transportation Operations
- Transportation Systems/ Infrastructure
- Travel & Tourism

Statistics and Probability

Bachelor's or above (Calculus)

- 6-12 Education (math or science concentration)
- Business Intelligence
- Information Science*
- Statistics

Bachelor's or above (non-Calculus)

- 6-12 Education (non-math or science concentration)
- Anthropology
- Applied Business (AAB)*
- Applied Marketing (AAB)*
- Clinical/Medical Laboratory Science
- Criminal Justice (AA)
- Diagnostic Medical Sonographers*
- Dietetics
- Emergency Medical Technician (EMT)/Paramedic
- Environmental Science & Protection Tech*
- Exercise Science*
- Fire Science/EMT
- Geography
- Health Information
- Journalism*
- Health Sciences
- Management Analysts
- Market Research Analysts and Marketing Specialists*
- Nursing*
- Information Technology*
- Medical Laboratory
- Occupational Therapy*
- Paralegal and Legal Assistants
- Physical Therapy*
- Political Science
- Public Relations/Advertising*
- Radiologic Technologists*
- Respiratory Therapy Psychology (AA to BA)*
- Search Marketing Strategists*
- Social/Human Services (AAS) to BSW*
- Social Work (AA to BSW)*
- Sociology
- Telecommunication*

Associate degree

- Computer Network Support Specialists*
- Dental Hygienists*
- Human Resources Assistants*
- Medical and Clinical Laboratory Technicians*
- Nursing*
- Occupational Therapist Assistants*
- Physical Therapist Assistants*
- Recreation, Amusements, and Attractions
- Restaurants and Food/Beverage Services
- Sales and Service
- Transportation Operations
- Transportation Systems/ Infrastructure
- Travel & Tourism

Algebra 2/Pre-Calculus/Calculus STEM Path

Bachelor's or above (Calculus)

- 6-12 Education (math or science concentration)
- Accounting
- Actuarial
- Aerospace, Agricultural, Civil, and Mechanical Engineering
- Agribusiness (BS)
- Architecture
- Bioengineering/Biomedical Engineering,
- Biology
- Business
- Chemical/Environmental Chemistry
- Computer/Electrical Engineering
- Economics
- Electrical Engineering Technology*
- Engineering Science
- Engineering Technology (BS, BAS)
- Exercise Science*
- Finance
- Geology
- Industrial Engineering
- Mathematics
- Mechanical Engineering Technology*
- Physics
- Pre-Health Professional (Doctor, Vet, Pharmacy)

Associate degree

- Chemical Technicians
- Civil/Construction Engineering Technology
- Computer Network Support Specialists*
- Electro-Mechanical Technicians
- Electrical and Electronic Engineering Technicians
- Environmental Science & Protection Tech*
- Industrial Engineering Technicians
- Mechanical Engineering Technicians
- Radiologic Technologists*

Computer Science/ Discrete Math

Bachelor's or above (Calculus)

- Computer Network Architects
- Computer Science (BS)
- Computer Systems Analysts
- Computer Systems Engineers/ Architects
- Engineers and Testers Software Developers
- Network and Computer Systems Architects

Bachelor's or above (non-Calculus)

- Computer and Information Systems Managers
- Computer Programmers*
- Computer Systems Analysts
- Database Administrators
- Software Applications
- Software Developers*
- Network and Computer Systems Administrators
- Information Security Analysts
- Software Quality Assurance
- Information Technology*
- Project Managers

Associate degree

- Computer Network Support Specialists*
- Computer Programmers*
- Database Administrators
- Information Technology*
- Network and Computer Project Managers
- Software Developers*
- Software Developers, Applications
- Systems Administrators
- Web Developers*

Certificate/Bootcamps

- Computer Technician
- Cyber Security Analysts
- Junior Programmer
- Network Administrator
- Network Analyst
- Network Engineer

Other Careers

- Computer User Support Specialist

Data Science Foundations

Bachelor's or above (Calculus)

- Business Intelligence Analysts
- Data Science
- Information Science*
- Marketing
- Software Developers*

Bachelor's or above (non-Calculus)

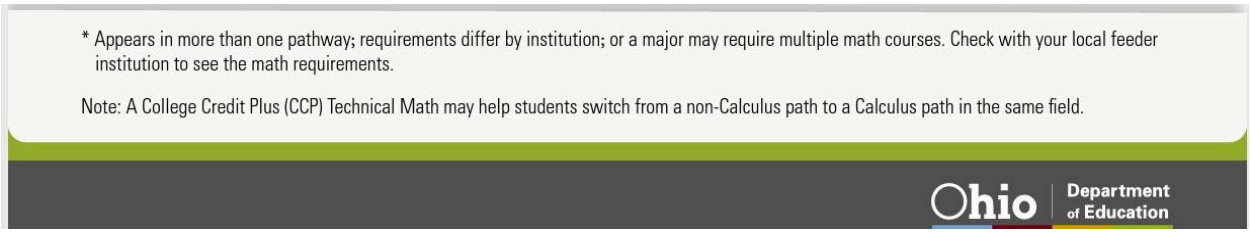
- Any Arts or Humanities degree that requires Quantitative Reasoning
- Applied Business (AAB)*
- Applied Marketing (AAB)*
- Computer Programmers*
- Criminal Justice (Applied degree)
- Database Administrators
- Journalism*
- Market Research Analysts and Marketing Specialists*
- Management Analysts*
- Project Managers
- Public Relations/Advertising*
- Search Marketing Strategists*
- Software Developers*
- Software Quality Assurance
- Telecommunication*

Associate degree

- Any Arts or Humanities degree that requires Quantitative Reasoning
- Computer Network Support Specialists*
- Web Developers*

Certificate/Bootcamps

- Data Analytics
- Data Science



- **All students who participate in the honors mathematics courses will be assessed to determine eligibility each year based on multiple standardized assessments.**

Algebra I – 1 credit
Course Code: 113
GRADE OFFERING ☒9 ☐10 ☐11 ☐12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: Any freshmen, who did not take 8th grade Algebra the previous year, must take Algebra.

Algebra I introduces the students to problem solving using unknowns and the real number system. Topics will include solving linear equations with applications to various problems, absolute values, inequalities, polynomials, polynomial factorizations and algebraic fractions. The student will determine solutions to first and second-degree equations through factoring and the quadratic formula and apply these methods to written problems. Two variable equations will be introduced and solved by graphing on the x/y coordinate plane and through systems of equations.

Honors Algebra I – 1 credit
Course Code: 113H
GRADE OFFERING ☒9 ☐10 ☐11 ☐12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: see Honors Course Policy

Honors Math - District Policy

Students who want to enroll in a Math Honors Course must meet 2 of the following requirements:

- Grade of B or Higher in a prior corresponding Math course
- A score of Accelerated(4) or Advance(5) on a State Test the year prior in a Math course
- A Student has achieved a College readiness score on the ACT/SAT tests
- Special considerations for a student's placement will be allowed with a majority consensus of the Coordinator of Gifted Services, Teacher of the Honors course, Principal, and Superintendent

Students are expected to earn a grade of "C" or higher. If a student is not meeting the minimum expectation within the first four weeks of the grading period, a conference will take place to include the teacher, parent, student, School Counselor and/or principal to develop a plan for success. If the student, teacher, and parent recognize that the level of difficulty is such that the student is not successful, a level

change should occur immediately. Should the student remain in the honors course at the end of the grading period and the student is still not performing at the minimum grade requirement, the student will be withdrawn from the honors course and placed in the regular course.

Honors Algebra I introduces the student to problem solving using unknowns and the real number system. Topics will include solving linear equations with applications, absolute values including equations and graphs, inequalities, polynomials and polynomial factorization, algebraic fractions, linear and quadratic functions and their graphs. Honors Algebra I will have a greater emphasis on exponents and include radicals, radical equations, and the Pythagorean theorem. The student will solve first and second-degree equations and functions using factoring methods, graphing techniques with calculators, and the quadratic formula. Two variable equations and inequalities are solved using graphing techniques, and systems.

Algebra I with Application – 1 credit
Course Code: 1132
GRADE OFFERING ☒9 ☐10 ☐11 ☐12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: being enrolled in Algebra I course

This course is designed to provide support and to coincide with an Algebra I course. This class is not remedial but will provide immediate support and interventions for students. Students will receive an elective credit for this course.

Geometry – 1 credit
Course Code: 115
GRADE OFFERING ☒9 ☒10 ☐11 ☐12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☒SHCC

Prerequisite: Algebra I

Geometry begins with the study of points, lines and planes. It extends into formulas, segments, graphing, equations of lines, angles, perpendiculars, parallels, triangles, polygons, similarity, radicals, basic trigonometry and circles. Also included are numerous definitions, postulates, theorems and properties, as well as their applications to writing formal and informal proofs.

Students who need additional support may enroll in the Geometry extension class which will allow students a double period to complete the Geometry credit. Enrollment in this extension course must be approved by the school.

Geometry with Application – 1 credit
Course Code: 1152
GRADE OFFERING ☒9 ☒10 ☐11 ☐12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: being enrolled in Geometry course

This course is designed to provide support and to coincide with a Geometry course. This class is not remedial but will provide immediate support and interventions for students. Students will receive an elective credit for this course.

Honors Geometry – 1 credit
Course Code: 115H
GRADE OFFERING ☒9 ☒10 ☐11 ☐12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: see Honors Course Policy

Honors Geometry further develops students' understanding of Geometry concepts using a more rigorous approach than the regular Geometry course. Honors Geometry begins with the study of points, lines and planes. It extends into formulas, segments, graphing, equations of lines, angles, perpendiculars, parallels, triangles, polygons, similarity, congruence, radicals, trigonometry and circles. Also included are numerous definitions, postulates, theorems and properties, as well as their applications to writing formal and informal proofs.

Algebra II Equivalent Courses - may take more than one of these courses to meet the 4 math credits for graduation:

Algebra II/Honors Algebra II, Mathematical Modeling and Reasoning, Probability and Statistics, and Discrete Math/Computer Science

- ★ **based on interest and teacher availability Discrete Math/Computer Science may be offered at one or more of our buildings.**

Discrete Math/Computer Science – 1 credit - meets Algebra 2 equivalent for graduation
Course Code: 117
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☐SHCC - based on teacher and student interest, see your School Counselor for more information

Prerequisite: Successful completion of Geometry or Honors Geometry.
Students who successfully complete the Mathematical Modeling and Reasoning and/or Probability and Statistics course may also take Discrete Math/Computer Science.

Discrete Math/Computer Science (DM/CS) will explore a variety of discrete math topics through a mix of hands-on classroom activities, traditional mathematical/logical reasoning and interactive computer science activities designed for students with no prior coding experience. Topics include Computational Thinking, Computer Logic, Game Theory, Counting/Combinatorics, Probability, Connectivity, Iteration and Recursion, and Cryptography. All topics emphasize logical reasoning, proof, and communication with precise mathematical and computer science language.

Algebra II – 1 credit - meets Algebra 2 equivalent for graduation
Course Code: 114
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: Successful completion of Geometry or Honors Geometry.
Students who successfully complete the Mathematical Modeling and Reasoning and/or Probability and Statistics course may also take Algebra II.
The course will emphasize the development and solving of linear and quadratic equations and inequalities over both the real and complex number systems. Graphical representation and analysis of these functions will be performed using pencil & paper, graphing calculators, or computer apps. Students will learn about and problem solve with systems of equations, radical equations, rational expressions and equations. Additional topics will include methods for solving higher order equations, exponential, logarithmic, and trigonometric functions and applications. A focus on application and word problems will be used throughout the course.

Honors Algebra II – 1 credit - meets Algebra 2 equivalent for graduation
Course Code: 114H
GRADE OFFERING ☐9 ☒10 ☒11 ☐12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: see Honors Course Policy

Honors Algebra II further develops students' understanding of Algebraic concepts using a more rigorous approach than the regular Algebra II course. The course will emphasize the development and solving of linear and quadratic equations and inequalities over both the real and complex number systems. Graphical representation and analysis of these functions will be performed using pencil & paper, graphing calculators, or computer apps. Students will learn about and problem solve with systems of equations, radical equations, rational expressions and equations. Additional topics will include methods for solving higher order equations, exponential, logarithmic, and trigonometric functions and applications. A focus on application and word problems will be used throughout the course. The course content and pacing is intended to prepare students for success in Precalculus, Calculus, college entrance exams and those interested in pursuing a field of study requiring a deeper understanding of mathematics at the college level.

<u>Mathematical Modeling and Reasoning</u> – 1 credit - meets Algebra 2 equivalent for graduation
Course Code: 1144
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☒SHCC

Students who successfully complete an Algebra II/Honors Algebra II and/or Probability and Statistics course may also take Mathematical Modeling and Reasoning.

Recommended Eligibility: At least two units of credit in high school mathematics; and Algebra and Geometry end-of-course state tests or Math 1 and Math 2 end-of-course state tests.

Target Student: A student who needs a third or fourth credit in mathematics and is not intending to pursue a career that requires calculus.

This course is designed to promote reasoning, problem-solving, and modeling through thematic units focused on the mathematical practices while reinforcing and extending content in Number and Quantity, Algebra, Functions, Statistics and Probability, and Geometry. Quantitative reasoning and modeling involve the application of mathematics to real-world situations, with careful attention to the choice of units and contextual challenges. Problem-solving requires analyzing an unfamiliar situation and devising a solution strategy. Problem-solving and modeling mathematics together provide opportunities for students to experience success with mathematics, not merely improve their self-perception. These habits and skills promote perseverance and cut across disciplines, thus providing a gateway into successful postsecondary education and a variety of careers.

<u>Mathematical Modeling and Reasoning II</u> – 1 credit - meets Algebra 2 equivalent for graduation

★ based on interest and teacher availability may be offered at one or more of our buildings.

Course Code: 1145

GRADE OFFERING ☐9 ☐10 ☒11 ☒12

BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☒SHCC

Students who successfully complete Mathematical Modeling and Reasoning II may take Mathematical Modeling and Reasoning II.

This course is designed to continue to promote reasoning, problem-solving, and modeling through thematic units focused on the mathematical practices while reinforcing and extending content in Number and Quantity, Algebra, Functions, Statistics and Probability, and Geometry. Quantitative reasoning and modeling involve the application of mathematics to real-world situations, with careful attention to the choice of units and contextual challenges. Problem-solving requires analyzing an unfamiliar situation and devising a solution strategy. Problem-solving and modeling mathematics together provide opportunities for students to experience success with mathematics, not merely improve their self-perception. These habits and skills promote perseverance and cut across disciplines, thus providing a gateway into successful postsecondary education and a variety of careers.

Probability and Statistics – 1 credit - meets Algebra 2 equivalent for graduation

Students who successfully complete Mathematical Modeling and Reasoning and/or Algebra II/Honors Algebra II may also take Probability and Statistics.

Course Code: 1162

GRADE OFFERING ☐9 ☐10 ☒11 ☒12

BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☒SHCC

Prerequisites: Algebra/Honors Algebra I and Geometry/Honors Geometry

This course is designed to develop a greater understanding and appreciation for and skill in applying statistical techniques in the decision-making process. Topics include: descriptive statistics, probability,

and statistical inference. Practical examples based on real data are used throughout the course. Students will plan and conduct experiments or surveys and analyze the resulting data.

AP Statistics - 1 credit
Course Code: 1162P
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☒SHCC

Prerequisite: See AP District Policy requirements and successful completion of Algebra II

The AP Statistics course is equivalent to a one-semester, introductory, non-calculus-based college course in statistics. The course introduces students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. There are four themes in the AP Statistics course: exploring data, sampling and experimentation, anticipating patterns, and statistical inference. Students use technology, investigations, problem solving, and writing as they build conceptual understanding.

Pre-Calculus – 1 credit
Course Code: 116
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☒SHCC

Prerequisites: Algebra II/Honors Algebra II

This subject matter of Pre-Calculus draws together topics covered in both Algebra II and Geometry. Algebraic function, inequalities, and conic sections are all discussed using the methods of Analytic Geometry. The study of Trigonometry is continued with special emphasis on the abstract rather than the concrete applications. Other topics covered are logarithms.

Calculus – 1 credit
Course Code: 118
GRADE OFFERING ☐9 ☐10 ☐11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: Pre-Calculus

Calculus is equivalent to a freshman level college mathematics course. Calculus is a unique mathematics topic that focuses on three main concepts: limits, areas under a curve, and the study of tangent line application. It prepares students for advanced study in any of the Science or Engineering fields. Pre-Calculus topics such as functions, including trigonometric functions and limits. The course introduces derivatives of functions, the application of the Chain Rule, and implicit differentiation. Other topics will include basic differential equations and integration techniques such as anti-derivatives, integration by substitution, and integration by parts. The course will focus on problem solving applications of derivatives, integrals and differential equations in Science, Engineering and other fields.

MUSIC

All music courses fulfill the high school fine-arts graduation requirement

Vocal Music (Choir) – 1 credit

Course Code: 122

GRADE OFFERING ☒9 ☒10 ☒11 ☒12

BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: Students must be interested in singing.

Choir is open to all students who have demonstrated an interest in the concert choir, group singing, and making music. This class allows students to develop their individual and group vocal abilities through a performance of quality choral repertoire across multiple genres. Repertoire will be studied in preparation for public performances. After-school practices may be scheduled in preparation for concerts. Students may be expected to attend after-school performances.

Instrumental Music (Band) – 1 credit

Course Code: 121

GRADE OFFERING ☒9 ☒10 ☒11 ☒12

BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: Students must possess the ability to play an instrument.

This class will meet five times a week and will schedule practices outside of normal school hours. This class includes several outside participation activities, including, but not limited to:

- Parades and rehearsals throughout the summer
- Parades during the school year
- Football games (half-time)
- Participation at county fair in the summer
- Marching Band Contests
- District and State music contests
- Concerts
- Participation in assemblies
- Jazz band
- Private lesson recital
- Ensemble rehearsal

This course is designed to include all students who want to learn about music and participate in band. Students will develop their abilities through a variety of band repertoire to include, but not limited to, standard band music, current band music, and popular music. Band performances may include concerts, band festivals, solo and ensemble festivals, football games, basketball games, parades, school and

community events, and tours. After-school practices may be scheduled throughout the school year. Students are expected to attend all after-school rehearsals and performances.

Piano Keyboarding I – 1 credit
Course Code: 123K
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

Prerequisite: None

The purpose of this course is to give students the opportunity to learn piano keyboarding. The class instruction is designed so that students are enabled to: (1) Perform simple accompaniments and songs, (2) Perform with proper posture, hand position, fingering, rhythm and articulation, (3) Listen to, analyze, sight read and study piano literature, (4) Make interpretive decisions.

Piano Keyboarding II – 1 credit
Course Code: 123K2
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

Prerequisite: Piano Keyboarding I

This performing arts class will focus on developing techniques of sight-reading, transposition, accompanying, technique, and repertoire. Music theory concepts will be reinforced through keyboard application. Students are expected to perform and demonstrate mastery of the piano keyboarding techniques learned in this class.

Piano Keyboarding III – 1 credit
Course Code: 123K3
GRADE OFFERING ☐9 ☒10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

Prerequisite: Piano Keyboarding II

This performing arts class will focus on developing techniques of sight-reading, transposition, accompanying, technique, and repertoire. Music theory concepts will be reinforced through keyboard application. Students are expected to perform and demonstrate mastery of the piano keyboarding techniques learned in this class.

Music Exploration – 1 credit
Course Code: 125O, S, U
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☐MCHS ☒RHS ☐SHCC

Prerequisite: None

This course is designed to provide students an opportunity to explore, create and perform music. Students will learn proper singing techniques, and play instruments. They will also learn how to compose and record their own music using computer-based music software and will improve their music-reading skills and develop a better understanding of music.

History of Pop and Rock Music – 1 credit

Course Code: 124

GRADE OFFERING ☒9 ☒10 ☒11 ☒12

BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

Prerequisite: None

This course will cover the basics of pop and rock music history, and it will help students to gain a better understanding and appreciation of pop and rock music genres. Students will discuss the various times and eras of pop music genres, the musical and cultural trends of those eras, and staple performers and songs from those eras. Students will also listen to staple music from these various genres and eras. Pop music genres covered will include; but not be limited to: rock, pop, country, and hip hop/rap.

Beginning Guitar Class – 1 credit

Course Code: 123G

GRADE OFFERING ☒9 ☒10 ☒11 ☒12

BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

Prerequisite: None

Beginning Guitar Class - Prerequisite: Students must possess either the ability to play the guitar or the desire to learn to play the guitar. Grades: 9-12, Description: This course will cover the basics of playing guitar at a beginning level. Students will focus on developing individual and group performance skills. These skills include guitar playing technique, group performance skills, the rehearsal and performance of guitar music, music reading, and music fundamentals. Fundamentals include various style techniques, reading music notation, reading chord symbols and tablature, and learning from peers. In addition, students will gain a better understanding of various musical genres that use the guitar. Classroom music will include pop, rock, folk, classical, blues, and jazz music. This course meets five times a week. Outside of classroom participation such as recitals or concerts is expected.

HEALTH & PHYSICAL EDUCATION

Physical Education – 0.25 Credit
Course Code:
Grade 9: 082
Grade 10: 084
GRADE OFFERING ☒9 ☒10 ☐11 ☐12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: All freshmen and sophomores need to take this course.

O, S, U grade

Both units are required courses by the State of Ohio for graduation. The course consists of (2) one-semester courses with one the freshman year and one the sophomore year. PE 9 & 10 do not count into the student cumulative GPA. Improvement in the principles of physical fitness and skills are sought. Cardiovascular and respiratory fitness through aerobic style activities are taught. From the basics of walking through running and rope jumping to circuit training are covered. Calisthenics, weights and other power and flexibility measures are also used. The student will be required to change into proper attire and participate in each activity.

The 9th grade year consists of more team-oriented games: flag football, volleyball, soccer, etc.

The 10th grade year includes some of the 9th grade activities but with more emphasis put on the individual and carry-over activities important for later life.

****** Students involved in athletics may be able to receive P.E. credit without taking the course. Please see your School Counselor or athletic director for more information******

Course Code 082w – PE Waiver 9 will receive a grade of S that is not counted into the student's GPA

Course Code 084w – PE Waiver 10 will receive a grade of S that is not counted into the student's GPA

Health – 0.5 Credits
Course Code: 081
GRADE OFFERING ☒9 ☐10 ☐11 ☐12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: All freshmen need to take this course.

This is a required course by the State of Ohio for graduation. This course consists of one semester dealing with the most basic of health related issues that will be important for physical, mental, social, emotional and spiritual wellness. Some important course related topics deal with: making healthy choices, problem solving, hygiene, personality development, handling emotions, stress and defense mechanisms, nutrition,

diet and exercise, substance abuse, human development and some infectious diseases including AIDS and other communicable diseases.

Advanced PE – 0.5 Credit (full year course)
Course Code: 0820
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: Teacher approval and PE 9 and PE 10

O, S, U grade

Advanced PE is a class intended for student athletes to supplement their overall conditioning process for their individual health and who have already met PE 9 & 10 requirements. The program will include total body conditioning with emphasis placed on aerobic, anaerobic, strength, power, speed and flexibility accompanied with injury prevention, injury care, diet, rest and mental preparation. Classroom work will include students gaining knowledge of the physiology of exercise along with training methodology. Students who participate in three sports will have preference because of their lack of training time in a school year.

Exercise Physiology – .5 credit
Course Code: 089
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☐MCHS ☒RHS ☐SHCC

This course addresses the principles of the physiology of the human body during exercise with emphasis on cardiopulmonary and neuromuscular systems.

Nutrition and Wellness - .5 credit
Course Code: 091225
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☐MCHS ☒RHS ☐SHCC

This course provides students with an overview of good nutrition principles that are necessary for physical and mental wellness and a long, healthy life.

Leadership in Sports – .5 Credit – Grades 9-12 – BHS
Course Code: 088
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☐MCHS ☐RHS ☐SHCC
Prerequisite: None (does not replace required health or PE credit)

This course offers an opportunity for students to study leadership and what makes a person an effective leader.

Sports Medicine - .5 credits
Course Code: 087
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: Health and Biology

The purpose of this course is to provide an overview of the measures for the prevention, management and rehabilitation of athletic related injuries. Students will study basic anatomy as it applies to athletic injuries, protective equipment taping and bracing to protect the injured area and different theories of evaluation and rehabilitation techniques as they apply to athletic injuries. Problems such as nutrition, physical examination, wound care, environmental conditions and therapeutic modalities are discussed.

SCIENCE

Suggested Science Pathway:

- ➢ **Honors Biology ⇨ Physical Science ⇨ Chemistry &/or Anatomy ⇨ Chemistry II & Physics &/or CCP Anatomy**
- ➢ **Biology ⇨ Physical Science ⇨ 1 credit of higher level science ⇨ Science elective**

Biology – 1 credit
Course Code: 132
GRADE OFFERING ☒9 ☐10 ☐11 ☐12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☒SHCC

Prerequisite: None

The student will study the structure and function of organelles and effects of solutions. The course will include the major cellular processes such as: photosynthesis, respiration, nucleic acids, protein synthesis and cell division. The student will study genetics and evolution and how it relates to modern time. The student will study the characteristics of living things and their processes along with ecology.

Honors Biology – 1 credit (see Agricultural and Environmental Systems Career Field and Pathways for additional course(s) that may meet the Biology graduation requirement.)
Course Code: 1321
GRADE OFFERING ☒9 ☐10 ☐11 ☐12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Honors Biology - District Policy or Prerequisite:

Students who want to enroll in a Biology Honors Course must meet 2 of the following requirements:

- Grade of B or Higher in a prior corresponding science course
- A score of Accelerated (4) or Advance (5) on a State Test the year prior in a Science course
- A Student has achieved a College readiness score on the ACT/SAT tests

- Achieved an 80% or higher practice exam for the honors course for students that do not have a score for an Ohio State tests in Science.
- Special considerations for a student's placement will be allowed with a majority consensus of the Coordinator of Gifted Services, Teacher of the Honors course, Principal, and Superintendent

Students are expected to earn a grade of "C" or higher. If a student is not meeting the minimum expectation within the first four weeks of the grading period, a conference will take place to include the teacher, parent, student, School Counselor and/or principal to develop a plan for success. If the student, teacher, and parent recognize that the level of difficulty is such that the student is not successful, a level change should occur immediately. Should the student remain in the honors course at the end of the grading period and the student is still not performing at the minimum grade requirement, the student will be withdrawn from the honors course and placed in the regular course.

Prerequisite: see Honors Course Policy

This course will focus on the interaction of organisms with their environment. The course focuses on cellular structure and function, genetics and DNA replication, evolution, biodiversity and ecosystems. Chemical processes that living things perform, such as cellular respiration, photosynthesis and protein synthesis will be discussed. Discussions on current events, such as habitat loss, adaptations, climate change and its effect on life on the planet will occur.

Physical Science – 1 credit (see Agricultural and Environmental Systems Career Field and Pathways for additional course(s) that may meet the Physical Science graduation requirement.)
Course Code: 131

GRADE OFFERING ☐9 ☒10 ☐11 ☐12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☒SHCC

Prerequisite: None

The student will study energy, motion, matter and their interactions. The emphasis will be placed upon the laboratory skills necessary for the above studies. Topics will include the classification of matter, atoms, the periodic table, chemical bonds, chemical reactions, motion, the effects of forces, energy transformation, the effects of waves, and the universe.

Chemistry – 1 credit * meets graduation requirements for Advanced Science
Course Code: 133

GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: Physical Science or (*Agriculture, Food and Natural Resources) *and Algebra I

Chemistry is the science that deals with the structure and composition of matter and the changes it undergoes. The principles discussed in class are illustrated and utilized in laboratory work. The major principles studied include the phases of matter and chemical reactions at microscopic and macroscopic levels.

Integrated Technical Science – 1 credit * meets graduation requirements for Advanced Science

Course Code: 139998

GRADE OFFERING ☐9 ☐10 ☐11 ☒12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Prerequisite: Two years of high school Science

Integrated Technical Science will introduce students to the study of the physical world by examining matter and energy, atoms and moles, the Periodic Table, ionic compounds, covalent compounds, chemical equations and reactions, stoichiometry, and the causes of change. Students will then build on these basics to further explore states of matter and intermolecular forces, gasses, solutions, chemical equilibrium, acids and bases, reaction rates, oxidation, reduction, nuclear chemistry, electrochemistry, carbon and organic compounds, and biological chemistry. Exploration of these concepts will be through textbook readings, visual presentations, computer applications, and hands-on laboratory activities. Students will be able to utilize learning within the chosen career field and in real life applications.

Environmental Science – 1 credit * meets graduation requirements for Advanced Science

Course Code: 132350

GRADE OFFERING ☐9 ☐10 ☐11 ☒12

BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Prerequisite: Two years of high school Science

Environmental science incorporates biology, chemistry, physics and physical geology and introduces students to key concepts, principles and theories within environmental science. Investigations are used to understand and explain the behavior of nature in a variety of inquiry and design scenarios that incorporate scientific reasoning, analysis, communication skills and real-world applications.

Chemistry II – 1 credit * meets graduation requirements for Advanced Science

Course Code: 1361

GRADE OFFERING ☐9 ☐10 ☐11 ☒12

BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: Chemistry I

Chemistry II topics include chemical reactions, mass and moles, energy in reactions, properties of solids, liquids and gasses and chemical bonding in materials. This course will place a strong emphasis on laboratory work and analysis of data.

Anatomy & Physiology – 1 credit * meets graduation requirements for Advanced Science

Course Code: 1341

GRADE OFFERING ☐9 ☐10 ☒11 ☒12

BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: Biology or **Animal and Plant Science, or Animal Science Technology**

The study of anatomy and physiology is where the form and function of the body is studied. A dissection specimen is used for the gross and micro study of anatomy and the physiological activities of the body from cells to organ systems are studied.

Physics – 1 credit * meets graduation requirements for Advanced Science
Course Code: 135
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: Chemistry and Algebra II

Physics investigates the relationship between matter and energy. Basic physics covers mechanics and when time permits wave motion. Students will examine the causes of motion and the mathematical description of motion in both one dimension and two-dimensional forms. Basic trigonometry and vector notation will be introduced as supporting mathematical concepts to these studies. Wave motion may include mechanical, sound and light waves. Energy, energy transformations, energy transport and energy transfers are explored in both mechanical and wave systems. Laboratory work will provide opportunities to examine both physical and mathematical concepts applied to real problems and to critically analyze acquired data.

Earth & Space – 1 credit * meets graduation requirements for Advanced Science
Course Code: 143
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: Physical Science

The course begins by looking at soil, the top layer of the solid Earth and interface between rock, water and atmosphere. Students will then explore the nature of the dynamic Earth and the internal and external processes that are continually at work shaping the planet. The course continues with an investigation into Earth's neighborhood in space and what effects space can have on planet earth.

Ecology - .5 credits * meets graduation requirements for Advanced Science
Course Code: 141
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: Biology

Ecology will be a course in which the fundamentals of the relationships among living things and the environment are studied.

Conservation Science - .5 credits * meets graduation requirements for Advanced Science
Course Code: 142
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

Prerequisite: Biology or Animal Science

The foundation of the Conservation Science course is conservation and the related outdoor recreational activities that fund the North American Model of Wildlife Conservation:hunting, fishing, boating, trapping and shooting sports. Students will develop skills, build an understanding of science and learn scientific techniques taught through the lens of conservation with an emphasis on hands-on, real-world activities. Conservation Science gives students a foundational basis for how these activities directly benefit habitat acquisition, enhancement and protection as well as wildlife management, including game, nongame and endangered species.

Forensics I - .5 credits * meets graduation requirements for Advanced Science
Course Code: 137
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: Biology

This course is designed around authentic performance assessments with students working in teams to solve crimes using scientific knowledge and reasoning. It involves all areas of science including biology, anatomy, chemistry, physics and earth science with an emphasis in complex reasoning and critical thinking. In addition, students must incorporate the use of technology, communication skills, language arts, art, family and consumer science, mathematics and social studies.

Forensics II - .5 credits * meets graduation requirements for Advanced Science
Course Code: 1372
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: Successful Completion of Forensics I

This class is designed for students who wish to continue working in a hands-on science course. Students will use problem-solving skills, laboratory science, and content knowledge of all fields of science to solve hypothetical crimes at an advanced level. The main focus of this course will be to emphasize the evidential value of crime scene and related evidence and the services of what has become known as the crime laboratory.

Botany/Horticulture - 1 credits * meets graduation requirements for Advanced Science
Course Code: 148A
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☐BHS ☐MCHS ☐RHS ☒SHCC

Prerequisite: None

This course will explore plant anatomy and physiology, as well as factors that influence growth, and the diversity of plant life. Labs will include using microscopes of cellular structure and growing plants. Plant ecology will present students with problems faced with habitat destruction, climate change and the importance of biodiversity. The course will discuss agricultural practices. A computer generated landscape design project will be at the end of the course.

Botany/Horticulture I - .5 credits *This semester course meets.5 credit of graduation requirements for Advanced Science

Course Code: 148A

GRADE OFFERING ☐9 ☐10 ☒11 ☒12

BUILDING OFFERING ☐BHS ☐MCHS ☒RHS ☐SHCC

Prerequisite: None

This course will explore plant anatomy and physiology, as well as factors that influence growth, and the diversity of plant life. Labs will include using microscopes of cellular structure and growing plants.

Botany/Horticulture II - .5 credits * This semester course meets.5 credit of graduation requirements for Advanced Science

Course Code: 148B

GRADE OFFERING ☐9 ☐10 ☒11 ☒12

BUILDING OFFERING ☐BHS ☐MCHS ☒RHS ☐SHCC

Zoology - .5 Credits * meets graduation requirements for Advanced Science

Course Code: 551

GRADE OFFERING ☐9 ☐10 ☒11 ☒12

BUILDING OFFERING ☐BHS ☒MCHS ☐RHS ☐SHCC

Prerequisite: None

This semester course provides a survey of invertebrates and vertebrates, as well as animal taxonomy. The focus of this course will include classification as well as the anatomy and physiology of worms, echinoderms, mollusks, arthropods, fish, amphibians, reptiles, birds, and mammals. The course includes dissections of some of the organisms studied.

SOCIAL STUDIES

Suggested SS Pathway:

- **Honors World History (CCP World History) ⇨ Honors American History (CCP American History) ⇨ American Government, AP Government, or CCP Government ⇨ SS Electives or additional CCP courses**
- **World History ⇨ American History ⇨ American Government ⇨ SS Electives**

World History – 1 credit

Course Code: 151

GRADE OFFERING ☒9 ☐10 ☐11 ☐12

BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: All freshmen need to take this course

This course examines world events from 1600 to the present. It explores the impact of the democratic and industrial revolutions, the forces that led to world domination by European powers, the wars that changed empires, the ideas that led to independence movements and the effects of global interdependence.

Honors World History – 1 credit

Course Code: 151H

GRADE OFFERING ☒9 ☐10 ☐11 ☐12

BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite – meeting Honor District Policy requirements

History Honors District Policy Prerequisite:

Students who want to enroll in a History Honors Course must meet 2 of the following requirements:

- Grade of B or Higher in a prior corresponding History course
- A Student must receive a score of 80% or higher on a pretest for the history course.
- Complete a pre-writing sample for the honors course and achieve a score of 3 or higher using the Pre-AP writing rubric.
- Special considerations for a student's placement will be allowed with a majority consensus of the Coordinator of Gifted Services, Teacher of the Honors course, Principal, and Superintendent

Students are expected to earn a grade of "C" or higher. If a student is not meeting the minimum expectation within the first four weeks of the grading period, a conference will take place to include the teacher, parent, student, School Counselor and/or principal to develop a plan for success. If the student, teacher, and parent recognize that the level of difficulty is such that the student is not successful, a level change should occur immediately. Should the student remain in the honors course at the end of the grading period and the student is still not performing at the minimum grade requirement, the student will be withdrawn from the honors course and placed in the regular course.

Students will need to complete in-depth research on various topics throughout the course in class and independently. This will include analyzing primary sources, independent reading, critical thinking skills, and creating written assignments. Students will synthesize and analyze different perspectives throughout World History to apply what they have learned to societal issues in real world settings, and to prepare to participate in civil life.

American History – 1 credit
Course Code: 153
GRADE OFFERING ☐9 ☒10 ☐11 ☐12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☒SHCC

Prerequisite: All sophomores need to take this course

This course examines the history of the United States of America. The federal republic has withstood challenges to its national security and expanded the rights and roles of its citizens. The episodes of its past have shaped the nature of the country today and prepared it to attend to the challenges of tomorrow. Understanding how these events came to pass and their meaning for today's citizens is the purpose of this course. Topics include, but are not limited to, immigration, labor movements, imperialism, economic theories, World War I and World War II. Several out-of-class written assignments and projects will be completed by the end of the year. Related films and documentaries are viewed and discussed. Tests and quizzes may consist of multiple choice, matching, true/false, fill-in the blank, short answer and essay questions.

Honors American History – 1 credit
Course Code: 153H
GRADE OFFERING ☐9 ☒10 ☐11 ☐12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: see Honors Course Policy

This course examines the history of the United States of America Understanding how these events came to pass and their meaning for today's citizens is the purpose of this course. Some topics include: immigration, labor movements, imperialism, economic theories, World War I and World War II. Several out-of-class written assignments and projects will be completed by the end of the year.

History through Film A – .5 credit
Course Code: 159A
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

***Prerequisite: successful completion* of World History and American History**

This course will analyze significant themes, events and individuals in history as interpreted through the use of film. Topics include: warfare, noteworthy figures, the economy and sports. Students will learn to view films critically while also exploring the use of film as a tool of historical education. This course is

designed to be primarily student-centered instruction. Most class time will be spent interactively with in-class discussions and film assessments.

History through Film B– .5 credit
Course Code: 159B
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

***Prerequisite: successful completion* of World History and American History (students do not need to have taken History through Film A before taking this course.)**

This course will analyze significant themes, events and individuals in history as interpreted through the use of film. Topics include: warfare, noteworthy figures, the economy and sports. Students will learn to view films critically while also exploring the use of film as a tool of historical education. This course is designed to be primarily student-centered instruction. Most class time will be spent interactively with in-class discussions and film assessments.

American Government – 1 credit
Course Code: 154
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☒SHCC

Prerequisite: All students need to take this course their junior or senior year.

National, state, and local government levels are studied with an emphasis on the current government and the people involved. Specific topics of study include the basic principles of the U.S. Constitution, the amending process, individual rights and government protection of minority groups, the structure and function of the three branches, the Ohio Constitution, political parties and interest groups, and U.S. fiscal and monetary policy. Current events, projects, films, and documentaries are all used to enhance learning. Tests and quizzes may consist of multiple choice, matching, true/false, fill-in the blank, short answer, short answer and extended response questions.

AP U.S. Government and Politics - 1 Credit
Course Code: 154P
GRADE OFFERING ☐9 ☐10 ☒11 ☒12 based on availability of AP instructor
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite- meeting AP District Policy requirements

The AP U.S. Government and Politics course provides a college level, nonpartisan introduction to key political concepts, ideas, institutions, policies, interactions, roles and behaviors that characterize the constitutional system and political culture of the United States. Students will study U.S. foundational documents, Supreme Court decisions, and other texts and visuals to gain an understanding of the relationships and interactions among political institutions, processes and behaviors. They will also engage in disciplinary practices that require them to read and interpret data, make comparisons and applications,

and develop evidence-based arguments. In addition, they will complete a political science research or applied civics project.

The primary focus of this course is to prepare students for success in college, as well as, completion of the Advanced Placement U.S. Government and Politics Exam

Current Events – .5 credits
Course Code: 158 -Elective credit in Social Studies
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: None

The dynamics of global interactions among nations and regions present issues that affect all humanity. These dynamics include: competing beliefs and goals; methods of engagement; and conflict and cooperation. Contemporary issues have political, economic, social, historic and geographic components. Approaches to addressing global and regional issues reflect historical influences and multiple perspectives. The student will, along with the teacher, provide worthwhile topics for class discussion. Daily news sources, such as newspapers, television news shows, radio, magazines and the Internet will be used.

World Geography - .5 credits
Course Code: 160 - Elective credit in Social Studies
GRADE OFFERING ☒9 ☒10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: None

This course includes the study of the world's people, places and environments, with a focus on world regions. Particular emphasis is placed on students' understanding and applying geographic concepts and skills to their daily lives.

The Civil War_- .5 credit for each
Course Code: 161A- Elective credit in Social Studies
Course Code: 161B- Elective credit in Social Studies
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☐SHCC

Prerequisite: World History, American History (this course does not replace credit for American History)

This course is a study of the American Civil War. Topics will range from the causes of the war itself to the era of Reconstruction. Emphasis will be placed on the contributions of both Union and Confederate military leadership. Students will explore Civil War battles on two different levels: the strategy of major commanders and developments within specific battles that affected the decisions of officers on the field. Students will also examine how the nation coped with the war and its aftermath.

Sociology - .5 credits
Course Code: 157- Elective credit in Social Studies
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☒SHCC

Prerequisite: None

This is an introductory course on the study of society and group relationships. Students examine a variety of topics including culture (language, customs, norms, and values), socialization, group dynamics, deviance and collective criminal behavior, family structure, poverty, religion, and social change. Students can expect to complete and participate in projects, class discussions, and research.

Psychology - .5 credits
Course Code: 156 - Elective credit in Social Studies
GRADE OFFERING ☐9 ☐10 ☒11 ☒12
BUILDING OFFERING ☒BHS ☒MCHS ☒RHS ☒SHCC

Prerequisite: None

Students will learn a range of topics traditionally covered in an introductory course in psychology. The course begins by exploring the science of psychology, methods of research, and data collection. Students then delve into the structure and function of the brain, sensation, perception, theories of learning, memory, personality theory, and abnormal psychology including mental illness and treatment. Students can expect to complete and participate in projects, experiments, class discussions, and research.