Dear Student:

You are about to make some of the more important decisions of your high school career as you select courses for the 2015-2016 academic year. While next year may seem far off, decisions and choices made in the near future will play a major role in determining the direction and quality of your educational experiences.

As you make your selections, remember that the Curriculum Guide is only a starting point in choosing your 2015-2016 schedule. Before completing your course selections sheet, discuss your immediate and long range plans with your parents/guardian. Make certain the courses chosen reflect not only your current interests, but also your goals for after graduation as well. Make your aspirations compatible with your ability, but set goals which are ambitious as well as attainable. Plan a program which will demand your best and aid you in getting the most from your education. To learn more about the courses offered talk with your counselor, teachers, and appropriate department representatives so that you can make sound decisions based on the best advice available.

As an aid in the course selection process, an orientation meeting for you and your parents/guardians will be held in the senior high cafeteria on February 4, 2015 @ 6:30 PM (snow date, February 5, 2015). The meeting will acquaint you and your parents/guardians with the Curriculum Guide, graduation requirements, elective options and Career & Technology Center offerings. Administrators, school counselors, and department representatives will be present to answer any questions about the curriculum and/or the selection process. I sincerely urge you and your parents/guardians to set aside this evening so that we can work together to assist you in planning an academic program which is relevant and of the highest quality.

Once a student has selected courses and has acquired signed approval from his/her parents/guardians and the guidance department, changes in the resulting schedule may be made only in instances where there has been a change in educational goals which warrant consideration by the guidance department and administration. Changes of this nature will be considered, if requested by parent/guardian in writing, no later than Thursday, July 23, 2015.

Mr. Hughes
Manheim Central High School Principal
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## Graduation Requirements

### Regular Education Graduation Requirements

<table>
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<tr>
<th>Course</th>
<th>Required Credit Earnings</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Class of 2016</td>
</tr>
<tr>
<td>English Language Arts</td>
<td>4 Credits</td>
</tr>
<tr>
<td>Mathematics</td>
<td>4 Credits</td>
</tr>
<tr>
<td>Social Studies</td>
<td>3 Credits</td>
</tr>
<tr>
<td>Science</td>
<td>3 Credits</td>
</tr>
<tr>
<td>Physical Education</td>
<td>1.5 Credits (3 Classes)</td>
</tr>
<tr>
<td>9th Grade Course(s)</td>
<td>1 Credit (Nutrition, Technology Systems, Agriculture Exploration, and Life Essential Art)</td>
</tr>
<tr>
<td>Computer Application</td>
<td>0.5 Credit</td>
</tr>
<tr>
<td>Health</td>
<td>0.5 Credit</td>
</tr>
<tr>
<td>10th Grade Course(s)</td>
<td>0.5 Credit (Careers and 10th Gr Life Essentials Music)</td>
</tr>
<tr>
<td>Family Consumer Science</td>
<td>0.5 Credit (FCS Connections)</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>9.5 Credits</td>
</tr>
</tbody>
</table>
Modified Graduation Requirements

Any student who has been determined by an IEP team, based upon recommendation in a multidisciplinary evaluation, to need specialized instruction to address special education needs must satisfy the following requirements or successfully complete the requirements in his/her IEP to be eligible for the awarding of a Manheim Central High School diploma.

<table>
<thead>
<tr>
<th>Course</th>
<th>Required Credit Earnings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Class of 2016</td>
</tr>
<tr>
<td>English Language Arts</td>
<td>3 Credits</td>
</tr>
<tr>
<td>Mathematics</td>
<td>3 Credits</td>
</tr>
<tr>
<td>Social Studies</td>
<td>2 Credits</td>
</tr>
<tr>
<td>Science</td>
<td>2 Credits</td>
</tr>
<tr>
<td>Physical Education</td>
<td>1.5 Credits (3 Classes)</td>
</tr>
<tr>
<td>9th and 10th Grade Courses</td>
<td>1 Credit from the following courses: Nutrition, Technology Systems, Agriculture Exploration, Life Essential Art, Careers, or 10th Gr Life Essentials Music</td>
</tr>
<tr>
<td>Computer Application</td>
<td>0.5 Credit</td>
</tr>
<tr>
<td>Health</td>
<td>0.5 Credit</td>
</tr>
<tr>
<td>Family Consumer Science</td>
<td>0.5 Credit (F.C.S. Connections)</td>
</tr>
<tr>
<td>Elective Courses</td>
<td>14 Credits</td>
</tr>
</tbody>
</table>

Keystone Exams

In addition to the graduation requirements defined by Manheim Central School District Policy 217, students must now demonstrate a level of proficiency on end-of-course exams, titled Keystone Exams. Starting with Class of 2017, these assessments will be a mandatory State requirement for graduation. Members of the Class 2016 must take the Keystone Exams. Per the graduation requirements defined by Manheim Central School District, students must be proficient in both Algebra I and Literature to earn a Manheim Central High School diploma.

Listed below are the students who will be taking the exams during the 2015-2016 school year. Some of our students are already proficient or advanced, from previous Keystone testing, and may not be taking the exams.

- **Algebra I**
  - Any student who has completed the course but is not currently proficient on the Keystone Exam (to include all juniors, sophomores, and freshmen)

- **Biology**
  - Any junior who is not currently proficient on the Keystone Exam
  - All sophomores who have already completed the course
  - Any freshmen who have completed the course in high school

- **Literature**
  - Any junior who is not currently proficient on the Keystone Exam
All sophomores who have completed the course in high school

Project Based Assessment
- The Pennsylvania Department of Education (PDE) has developed a project based assessment (PBA) that is aligned with the modules of each Algebra I, Biology, or Literature Keystone Exams for students who are unable to demonstrate proficiency on a Keystone Exam or Keystone Exam module. Successful completion of a project based assessment (PBA) aligned to the Keystone Exam or Keystone Exam module on which the student did not demonstrate proficiency shall satisfy the Keystone Exam graduation requirements.

For more detailed information about how the Keystone Exams are being integrated into the Pennsylvania graduation requirements, please visit the Pennsylvania Department of Education’s Standards Aligned System (SAS) website at: http://www.pdesas.org/module/assessment/keystone.aspx

Course Levels

Four levels of instruction will be offered in Physical Science, Biology, Social Studies and English. In order to insure the most appropriate placement, students should seek input from their parents and teachers when choosing a course level and have the signed approval of one of the current year’s teachers in each of these departments. The levels of all courses have been described in the following manner:

- **Advanced Placement:** College-level courses that challenge and stimulate the most capable students through in-depth study, accelerated learning and the development of analytical reasoning skills.
- **Honors:** Courses that are oriented to students who have demonstrated exceptional ability in these areas and who desire to pursue a challenging course with higher expectations and which require much more high-order thinking and organizational skills. Honors level courses are the gateway courses to AP level courses.
- **Level 1:** Courses are oriented to students who have demonstrated high ability and performance in most areas of school work.
- **Level 2:** Courses are oriented to students who have ability close to grade level.

Honor Roll

- **Distinguished Honors:** 4.0 GPA on a 4.0 scale
- **First Honors:** GPA between a 3.9 and 3.5 GPA on a 4.0 scale
- **Second Honors:** GPA between 3.0 and 3.49 on a 4.0 scale

At the end of the marking period, students who earn a D, F or U in any subject, including Graduation Project (Class of 2016 only), will not be eligible for any honor roll for that grading period.

Students receiving incomplete grades for a marking period will be considered for Honor Roll distinction only when a grade is submitted to the Guidance Office.
Class Rank

Method of Calculating and Reporting
- Class rank will be calculated and reported following the end of each semester for students in each grade.
- Foreign exchange students will not be included in class ranking.
- Home Education Students entering Manheim Central High School after grade 9 will not receive a GPA based upon their home education program (see Board Policy 137).
- Grades earned in courses graded on a Satisfactory/Unsatisfactory, or other non-traditional grading system will not be included in the calculation of Class Rank.

Weighted Class Rank Guidelines for the Class of 2016
All courses for the Class of 2016 will be given a weight factor as indicated below:
- Advanced Placement courses will be given a weight factor of 1.4
- College in the High School will be given a weight factor of 1.4
- All other courses will be given a weight factor of 1

Weighted Class Rank Guidelines for the Class of 2017, 2018 and 2019
Beginning with the Class of 2017, Advanced Placement, College in the High School and Honors courses (in the core curriculum and 4th level World Language courses) will be weighted. (Board Policy #214)
- Advanced Placement courses will be given a weight factor 1.3
- Honors classes will be given a weight factor of 1.2
- College in the High School will be given a weight factor of 1.2
- 3rd and 4th level World Languages will be given a weight factor of 1.2
- All other courses will be given a weight factor of 1

Formula for Calculating Weighted Grade Point Average
Each student's weighted grade point average will be computed by using the procedure and formula described below. For the purpose of calculating weighted class rank letter grades earned will be converted to the following numerical equivalents:

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Grade</th>
<th>Numerical Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>100-94</td>
<td>A</td>
<td>4.0</td>
</tr>
<tr>
<td>93-90</td>
<td>A-</td>
<td>3.67</td>
</tr>
<tr>
<td>87-89</td>
<td>B+</td>
<td>3.33</td>
</tr>
<tr>
<td>83-86</td>
<td>B</td>
<td>3.00</td>
</tr>
<tr>
<td>80-82</td>
<td>B-</td>
<td>2.67</td>
</tr>
<tr>
<td>77-79</td>
<td>C+</td>
<td>2.33</td>
</tr>
<tr>
<td>73-76</td>
<td>C</td>
<td>2.00</td>
</tr>
<tr>
<td>70-72</td>
<td>C-</td>
<td>1.67</td>
</tr>
<tr>
<td>67-69</td>
<td>D+</td>
<td>1.33</td>
</tr>
<tr>
<td>63-66</td>
<td>D</td>
<td>1.00</td>
</tr>
<tr>
<td>60-62</td>
<td>D-</td>
<td>0.67</td>
</tr>
<tr>
<td>59 and below</td>
<td>F</td>
<td>0.00</td>
</tr>
</tbody>
</table>

A student’s weighted grade point average will be calculated by following the bulleted directions below.
- First calculate the quality points for each course a student has taken by using the following formula:
  - Grade (Numerical equivalent) x course credit x weighting factor
  - Example 1 for the Class of 2016: A grade of "B" earned in a weighted AP course which is worth 1 credit
3 X 1 X 1.4 = 4.2 weighted quality points
- Example 2 for the Class of 2017, 2018, and 2019: A grade of “B” earned in a weighted AP course which is worth 1 credit
- 3x1x1.3= 3.9 weighted quality points

- Once the quality points are determined for each course, add all of the quality points together
- Then divide the total quality points by the number of total credits attempted
- The answer is the student’s weighted grade point average

**College in the High School Program**

HACC’s College in the High School program enables qualified high school students to enroll in college level courses at their high school or technical school during the regular school day. CHS students earn concurrent high school and college credit. Course offerings are selected from HACC’s required courses, core curriculum or technical courses. Courses are taught by a high school teacher who qualifies as a HACC adjunct faculty members and are offered to high school students at a reduced tuition rate. Students are responsible for the cost of the course.

**Dual Enrollment**

Dual Enrollment is the opportunity for students to take college courses (at local colleges) and high school courses at the same time. The college credits can be earned at a reduced cost and can count towards both high school graduation and a college transcript. Students are responsible for the cost of the course.

We currently have an agreement with the following schools:
- Harrisburg Area Community College
- Lebanon Valley College
- Millersville University
- Clarion University
- Pennsylvania College of Health Sciences
- Thaddeus College of Technology
- Elizabethtown College

All of the institutions have specific application procedures students must follow in order to enroll in their Dual Enrollment Program. All courses taken under this program must be core academic courses as defined by the No Child Left Behind Act of 2001. This means that courses can be in any of the following subjects: English, reading or language arts, mathematics, science, foreign languages, civics and government, economics, arts, history and geography, psychology and sociology.

Please note that students are responsible for their own transportation, and must sign in and out of the Manheim Central High school office when leaving to or arriving from a college campus course. There are academic, attendance, and behavioral requirements the student must meet in order to participate. Interested students should meet with their counselor for further information.
Credit Recovery Options

A student who fails a course at Manheim Central High School has the option to either attend an approved summer school or to make up the course via an approved online credit recovery provider. Interested students should meet with their counselor for further information.

NCAA Eligibility Center

Student-athletes who are considering participating in collegiate athletics should explore the NCAA (National Collegiate Athletic Association) requirements for eligibility. A high school diploma alone is not sufficient to permit a student to participate in college athletics. The NCAA has a set of minimum standards that students must meet to be eligible. Below is a quick reference sheet taken directly from the NCAA Eligibility Center that outlines the requirements to play at a Division I or Division II College or university. For more detailed information and to register with the NCAA Eligibility Center please visit the following website: http://web1.ncaa.org/ECWR2/NCAA_EMS/NCAA.jsp.
NCAA Division I Initial-Eligibility Requirements

Core Courses: (16)

- Initial full-time collegiate enrollment before August 1, 2016:
  - Sixteen (16) core courses are required (see chart below for subject-area requirements).
- Initial full-time collegiate enrollment on or after August 1, 2016:
  - Sixteen (16) core courses are required (see chart below for subject-area requirements).
    - Ten (10) core courses completed before the seventh semester; seven (7) of the 10 must be in English, math or natural/physical science.
    - These courses/grades are "locked in" at start of the seventh semester (cannot be repeated for grade-point average [GPA] improvement to meet initial-eligibility requirements for competition).
  - Students who do not meet core-course progression requirements may still be eligible to receive athletics aid and practice in the initial year of enrollment by meeting academic redshirt requirements (see below).

Test Scores: (ACT/SAT)

- Students must present a corresponding test score and core-course GPA on the sliding scale (see Page No. 2).
  - SAT: critical reading and math sections.
    - Best subscore from each section is used to determine the SAT combined score for initial eligibility.
  - ACT: English, math, reading and science sections.
    - Best subscore from each section is used to determine the ACT sum score for initial eligibility.
- All ACT and SAT attempts before initial full-time collegiate enrollment may be used for initial eligibility.
  - Enter 9999 during ACT or SAT registration to ensure the testing agency reports your score directly to the NCAA Eligibility Center. Test scores on transcripts will not be used.

Core Grade-Point Average:

- Only core courses that appear on the high school's List of NCAA Courses on the NCAA Eligibility Center's website (www.eligibilitycenter.org) will be used to calculate your core-course GPA. Use this list as a guide.
- Initial full-time collegiate enrollment before August 1, 2016:
  - Students must present a corresponding test score (ACT sum score or SAT combined score) and core-course GPA (minimum 2.000) on Sliding Scale A (see Page No. 2).
  - Core-course GPA is calculated using the best 16 core courses that meet subject-area requirements.
- Initial full-time collegiate enrollment on or after August 1, 2016:
  - Students must present a corresponding test score (ACT sum score or SAT combined score) and core-course GPA (minimum 2.300) on Sliding Scale B (see Page No. 2).
  - Core-course GPA is calculated using the best 16 core courses that meet both progression (10 before seventh semester; seven in English, math or science; "locked in") and subject-area requirements.

<table>
<thead>
<tr>
<th>DIVISION I</th>
<th>Core-Course Requirement (16)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 years of English</td>
<td></td>
</tr>
<tr>
<td>3 years of math (Algebra I or higher)</td>
<td></td>
</tr>
<tr>
<td>2 years of natural/physical science (1 year of lab if offered)</td>
<td></td>
</tr>
<tr>
<td>1 year of additional English, math or natural/physical science</td>
<td></td>
</tr>
<tr>
<td>2 years of social science</td>
<td></td>
</tr>
<tr>
<td>4 years of additional courses (any area above, foreign language or comparative religion/philosophy)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DIVISION I – 2016</th>
<th>Qualifier Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Athletics aid, practice, and competition</td>
<td></td>
</tr>
<tr>
<td>16 core courses</td>
<td></td>
</tr>
<tr>
<td>- Ten (10) core courses completed before the start of seventh semester. Seven (7) of the 10 must be in English, math or natural/physical science.</td>
<td></td>
</tr>
<tr>
<td>- &quot;Locked in&quot; for core-course GPA calculation.</td>
<td></td>
</tr>
<tr>
<td>Corresponding test score (ACT sum score or SAT combined score) and core-course GPA (minimum 2.300) on Sliding Scale B (see Page No. 2).</td>
<td></td>
</tr>
<tr>
<td>Graduate from high school.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DIVISION I – 2016</th>
<th>Academic Redshirt Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Athletics aid and practice (no competition)</td>
<td></td>
</tr>
<tr>
<td>16 core courses</td>
<td></td>
</tr>
<tr>
<td>- No grades/credits &quot;locked in&quot; (repeated courses after the seventh semester begins may be used for initial eligibility).</td>
<td></td>
</tr>
<tr>
<td>Corresponding test score (ACT sum score or SAT combined score) and core-course GPA (minimum 2.000) on Sliding Scale B (see Page No. 2).</td>
<td></td>
</tr>
<tr>
<td>Graduate from high school.</td>
<td></td>
</tr>
</tbody>
</table>
### NCAA DIVISION I SLIDING SCALE

**Core GPA** | **SAT** | **ACT Sum**
---|---|---
3.550 & above | 400 | 37
3.525 | 410 | 38
3.500 | 420 | 39
3.475 | 430 | 40
3.450 | 440 | 41
3.425 | 450 | 42
3.400 | 460 | 43
3.375 | 470 | 44
3.350 | 480 | 45
3.325 | 490 | 46
3.300 | 500 | 47
3.275 | 510 | 48
3.250 | 520 | 49
3.225 | 530 | 50
3.200 | 540 | 51
3.175 | 550 | 52
3.150 | 560 | 53
3.125 | 570 | 54
3.100 | 580 | 55
3.075 | 590 | 56
3.050 | 600 | 57
3.025 | 610 | 58
3.000 | 620 | 59
2.975 | 630 | 60
2.950 | 640 | 61
2.925 | 650 | 62
2.900 | 660 | 63
2.875 | 670 | 64
2.850 | 680 | 65
2.825 | 690 | 66
2.800 | 700 | 67
2.775 | 710 | 68
2.750 | 720 | 69
2.725 | 730 | 70
2.700 | 740 | 71
2.675 | 750-750 | 72
2.650 | 760 | 73
2.625 | 770 | 74
2.600 | 780 | 75
2.575 | 790 | 76
2.550 | 800 | 77
2.525 | 810 | 78
2.500 | 820 | 79
2.475 | 830 | 80
2.450 | 840-850 | 81
2.425 | 860 | 82
2.400 | 860 | 83
2.375 | 870 | 84
2.350 | 880 | 85
2.325 | 890 | 86
2.300 | 900 | 87
2.275 | 910 | 88
2.250 | 920 | 89
2.225 | 930 | 90
2.200 | 940 | 91
2.175 | 950 | 92
2.150 | 960 | 93
2.125 | 970 | 94
2.100 | 980 | 95
2.075 | 990 | 96
2.050 | 1000 | 97
2.025 | 1010 | 98
2.000 | 1020 | 99

**SAT**

| **Verbal and Math ONLY** | **ACT Sum** |
---|---|
990 | 37
960 | 38
950 | 39
930 | 40
920 | 41
910 | 42
890 | 43
830 | 44
810 | 45
770 | 46
760 | 47
740 | 48
730 | 49
720 | 50
710 | 51
700 | 52
690 | 53
670 | 54
660 | 55
650 | 56
640 | 57
620 | 58
610 | 59
600 | 60
590 | 61
580 | 62
570 | 63
560 | 64
550 | 65
540 | 66
530 | 67
520 | 68
510 | 69
500 | 70
490 | 71
480 | 72
470 | 73
460 | 74
450 | 75
440 | 76
430 | 77
420 | 78
410 | 79
400 | 80
390 | 81
380 | 82
370 | 83
360 | 84
350 | 85
340 | 86
330 | 87
320 | 88
310 | 89
300 | 90
290 | 91
280 | 92
270 | 93
260 | 94
250 | 95
240 | 96
230 | 97
220 | 98
210 | 99
200 | 100
190 | 101
180 | 102
170 | 103
160 | 104
150 | 105
140 | 106
130 | 107
120 | 108
110 | 109
100 | 110
90 | 111
80 | 112
70 | 113
60 | 114
50 | 115
40 | 116
30 | 117
20 | 118
10 | 119
0 | 120

For more information, visit [www.eligibilitycenter.org](http://www.eligibilitycenter.org) or [www.2point3.org](http://www.2point3.org).
Division II Initial-Eligibility Requirements

Core Courses

- **Division II currently requires 16 core courses.** See the chart below.
- **Beginning August 1, 2018,** to become a full or partial qualifier for Division II, all college-bound student-athletes must complete the 16 core-course requirement.

Test Scores

- **Division II** currently requires a minimum SAT score of 820 or an ACT sum score of 68. **Beginning August 1, 2018,** Division II will use a sliding scale to match test scores and core-course grade-point averages (GPA). The sliding scale for those requirements is shown on Page No. 2 of this sheet.
- The SAT score used for NCAA purposes includes **only** the critical reading and math sections. The writing section of the SAT is not used.
- The ACT score used for NCAA purposes is a **sum** of the following four sections: English, mathematics, reading and science.
- **When you register for the SAT or ACT,** use the NCAA Eligibility Center code of 9999 to ensure all SAT and ACT scores are reported directly to the NCAA Eligibility Center from the testing agency. **Test scores that appear on transcripts will not be used.**

Grade-Point Average

- Be sure to look at your high school’s List of NCAA Courses on the NCAA Eligibility Center’s website (www.eligibilitycenter.org). Only courses that appear on your school’s approved List of NCAA Courses will be used in the calculation of the core GPA. Use the list as a guide.
- The current **Division II** core GPA requirement is a minimum of 2.000. **Division II** core GPA required to be eligible for competition **on or after August 1, 2018,** is 2.200 (corresponding test-score requirements are listed on the Sliding Scale on Page No. 2 of this sheet).
- The minimum **Division II** core GPA required to receive athletics aid and practice as a partial qualifier **on or after August 1, 2018,** is 2.000 (corresponding test-score requirements are listed on the Sliding Scale on Page No. 2 of this sheet).
- Remember, the NCAA core GPA is calculated using NCAA core courses only.

### DIVISION II

<table>
<thead>
<tr>
<th>16 Core Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 years of English.</td>
</tr>
<tr>
<td>2 years of mathematics (Algebra I or higher).</td>
</tr>
<tr>
<td>2 years of natural/physical science (1 year of lab if offered by high school).</td>
</tr>
<tr>
<td>3 years of additional English, mathematics or natural/physical science.</td>
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<tr>
<td>2 years of social science.</td>
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<tr>
<td>4 years of additional courses (from any area above, foreign language or comparative religion/philosophy).</td>
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### DIVISION II COMPETITION SLIDING SCALE

*Use for Division II beginning August 1, 2018*

<table>
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<th>Core GPA</th>
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### DIVISION II PARTIAL QUALIFIER SLIDING SCALE

*Use for Division II beginning August 1, 2018*

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<td>820 &amp; above</td>
<td>68 &amp; above</td>
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</table>

For more information, visit the NCAA Eligibility Center website at [www.eligibilitycenter.org](http://www.eligibilitycenter.org).
Agriculture
Career and Technical Education Program

Agriculture courses are offered to meet the needs of students in the following agriculture career preparation tracts:

- **Agriculture School to Work Technical Preparation**: Students who will pursue a career in an agricultural trade after graduating from high school.
- **Agriculture College to Career Preparation**: Students who will pursue collegiate agriculture education after graduating from high school.

The following agriculture career preparation Four-Year Sequence of Agriculture Program courses are offered in two agriculture industry areas of study:

- Agriculture Mechanics
- Agriculture Science

### Agricultural Mechanics Career Pathway

<table>
<thead>
<tr>
<th>Agriculture Mechanic Courses</th>
<th>Credit Value</th>
<th>Description</th>
<th>School Year Availability</th>
<th>Academic and Technical Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture Mechanics 1</td>
<td>1</td>
<td>Introduction to Power, Structural and Technical Systems</td>
<td>Yearly</td>
<td>Introductory Prerequisite for all other Ag Mechanic courses</td>
</tr>
<tr>
<td>Small Gas Engines</td>
<td>0.5</td>
<td>2 &amp; 4 Cycle Engines: Function, Repair and Maintenance Skills</td>
<td>2015/2016 2016/2017</td>
<td>Advanced Level</td>
</tr>
<tr>
<td>Advanced Ag Construction:</td>
<td>0.5</td>
<td>Plumbing, Wiring and Concrete Trade Skills</td>
<td>2015/2016</td>
<td>Advanced Level</td>
</tr>
<tr>
<td>Plumbing, Concrete &amp; Electricity</td>
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</tr>
<tr>
<td>Agriculture Construction</td>
<td>0.5</td>
<td>Framing and Building Trades</td>
<td>2016/2017</td>
<td>Advanced Level</td>
</tr>
<tr>
<td>Ag Machinery &amp; Diesel</td>
<td>0.5</td>
<td>Ag Machinery and Diesel Engine: Function, Repair and Maintenance Skills</td>
<td>2017/2018</td>
<td>Advanced Level</td>
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<tr>
<td>Mechanics</td>
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<tr>
<td>Agricultural Welding</td>
<td>0.5</td>
<td>MIG, TIG, Arc and Plasma Welding</td>
<td>2017/2018</td>
<td>Advanced Level</td>
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<td>Senior SAE, Fall Semester</td>
<td>2</td>
<td>Vocational Ag-Ed Skill Development</td>
<td>Yearly, Blocks 3 and/or 4</td>
<td>Senior Year Only Advanced Level</td>
</tr>
<tr>
<td>Senior SAE, Spring Semester</td>
<td>2</td>
<td>Vocational Ag-Ed Skill Development</td>
<td>Yearly, Blocks 3 and/or 4</td>
<td>Senior Year Only Advanced Level</td>
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# Agricultural Science Career Pathway

<table>
<thead>
<tr>
<th>Agriculture Science Courses</th>
<th>Credit Value</th>
<th>Description</th>
<th>School Year Availability</th>
<th>Academic and Technical Level</th>
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<tbody>
<tr>
<td>Agriculture Science 1: Introduction to Agriculture, Food, and Natural Resources</td>
<td>1</td>
<td>Introduction to Agriculture, Food, and Natural Resources</td>
<td>Yearly</td>
<td>Introductory Prerequisite for all other Ag Sci courses</td>
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<tr>
<td>Applied Animal Science 3: Horse and Small Animal Management</td>
<td>0.5</td>
<td>Horse &amp; Small Animal Management and Veterinary Care</td>
<td>2015/2016</td>
<td>Advanced Level</td>
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<tr>
<td>Agriculture Sales &amp; Marketing: HACC Intro Ag Business</td>
<td>0.5</td>
<td>Agricultural Business Management</td>
<td>2015/2016</td>
<td>Advanced Level 3 college dual enrollment HACC college credits</td>
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<tr>
<td>Applied Plant Science 2: Landscaping &amp; Soil Science</td>
<td>0.5</td>
<td>Landscaping and Soil Science</td>
<td>2015/2016</td>
<td>Advanced Level</td>
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<tr>
<td>Applied Animal Science 2: Beef, Sheep &amp; Swine Management</td>
<td>0.5</td>
<td>Beef, Sheep, Swine Livestock Management and Veterinary Care</td>
<td>2016/2017</td>
<td>Advanced Level</td>
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<td>Agriculture Biotechnology</td>
<td>0.5</td>
<td>Biological Science of Food, Fiber and Alternative Energy Systems</td>
<td>2016/2017</td>
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<tr>
<td>Agriculture Processing: Food Sciences and Dairy &amp; Meat Processing</td>
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<td>Food Chemistry, Meat &amp; Dairy Processing</td>
<td>2017/2018</td>
<td>Advanced Level</td>
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<tr>
<td>Applied Animal Science 1: Dairy &amp; Poultry Management</td>
<td>0.5</td>
<td>Dairy, Poultry, Management, and Veterinary Care</td>
<td>2017/2018</td>
<td>Advanced Level</td>
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<tr>
<td>Senior SAE, Fall Semester</td>
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<td>Vocational Ag-Ed Skill Development</td>
<td>Yearly, Blocks 3 and 4</td>
<td>Senior Year Only Advanced Level</td>
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<tr>
<td>Senior SAE, Spring Semester</td>
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<td>Vocational Ag-Ed Skill Development</td>
<td>Yearly, Blocks 3 and 4</td>
<td>Senior Year Only Advanced Level</td>
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## Agriculture, Science, and Technology Courses

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<th>Course</th>
<th>Credit Value</th>
<th>Description</th>
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<th>Level</th>
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<tbody>
<tr>
<td>AgriEcology</td>
<td>1</td>
<td>Soil, Water, and Forest Resource Conservation and Ecosystem Study</td>
<td>Yearly</td>
<td>Advanced Level Junior or Senior Year</td>
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<tr>
<td>AP Environmental Science</td>
<td>1</td>
<td>Environmental Scientific Principles and Concepts</td>
<td>Yearly</td>
<td>Advanced Placement/Honors Junior or Senior Year</td>
</tr>
<tr>
<td>Environment, Ecology and Engineering</td>
<td>0.5</td>
<td>Environment, Ecology and Engineering Concepts</td>
<td>Yearly</td>
<td>Co-taught with Technology Education Program</td>
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</tbody>
</table>
Agriculture Career and Technical Education Program
All Agriculture Education Program courses have these common student expectations and experiential learning opportunities:

1. **SAE**: A Supervised Agriculture Experience (SAE) portfolio will be a requirement in all agriculture courses to serve as enrichment experiential learning activities. SAE programs are planned, documented, practical activities conducted outside of the classroom/laboratory instruction time in which students develop and apply agricultural knowledge and skills in the agriculture field being studied. Students will maintain an online SAE Record Book to show progress in agriculture skill development. Students with livestock based SAE’s are members of the *Manheim FFA Show Team*.

2. **Career Exploration**: Each student will explore varied agricultural career opportunities in all Ag-Ed course units studied and relate them to their individual interest, aptitudes and skills. There will be daily lesson connections made regarding future career opportunities in the Agriculture fields with a focus on employability skills.

3. **FFA**: All agriculture education students are enrolled in the Manheim chapter of the National FFA Organization. As active members of the FFA, they have the opportunity to participate in career development contests, attend leadership conferences, and earn scholarships for college. The opportunities for growth are endless! FFA makes a positive difference in the lives of students by developing their potential for premier leadership, personal growth and career success through agriculture education.

4. **Class Fees Expectations**: A course fee will be charged for lab and take home project materials. Agriculture industry tours will be taken to explore agriculture career opportunities. A school district field trip fee and any admission costs will need to be paid for by each student.

5. **Work Place Safety Training**: A safety contract, signed by parents and students, explaining appropriate shop maintenance & tool operation as well as expected student conduct while in the agriculture shop areas will be required of all students. Students are required to wear safety glasses at all times while working in the Ag Mech shop and Ag Sci laboratory areas.

6. **MC Ag-Ed CTE Program**: The Manheim Central Agriculture Education Program is a PA Department of Education Approved Career and Technical Education (CTE) program. Per the language in Public School Code: Any resident of any school district which does not maintain an approved vocational program...offering the type of Ag-Ed training which he desires, may make application to the board of school directors of any other district for admission to such school or department maintained by said board. This state education ruling means Manheim Central School District can accept students from Hempfield, Manheim Township, Warwick, Donegal School Districts and School District of Lancaster City so that they may pursue agriculture career preparation. Applicant should make an appointment with Mrs. Anderson, Ag-Ed Instructional Facilitator, and Mr. Hughes, MC High School Principal, to review admission expectations and process.
Agriculture
Agriculture Education Program: Agricultural Mechanics
Career and Technical Education Program Pathway

1431 Agriculture Mechanics 1: Introduction to Power, Structural and Technical Systems
School Year Availability: Yearly
Credit Value: 1
Prerequisite: None
Course Level: No Level
Course is for Students in Grade(s): 9-12
Course Fee: $45.00
Course Weight: 1
Course Description: This, the first course taught in Agriculture Mechanics, will provide a basic overview of agricultural mechanics related to repair, construction and maintenance. The student will learn shop safety, tools and hardware identification, tool use and maintenance, simple metal and wood working, basic electrical wiring, arc and gas welding and tractor driving safety. All students will master the use of materials, tools and processes of agriculture mechanics, which are applicable to this course. This course is the prerequisite course for all other Ag Mechanics elective courses.

1433 Small Gas Engines
School Year Availability: 2015/2016 and 2016/2017
Credit Value: 0.5
Prerequisite: Completion of 1431 or 1430
Course Level: Level 1
Course is for Students in Grade(s): 10-12
Course Fee: $10.00
Course Weight: 1
Course Description: The purpose of this Agriculture Mechanics course is to aid in practical, working knowledge of small gas engines. This course will include repair, operation and maintenance of two and four cycle engines. Laboratory exercises will cover compression, ignition, carburation, fuels, lubrication, maintenance and sales. Students will develop engine trouble shooting skills to determine what is wrong with an engine. Students are required to bring in their own engine to rebuild. They will be expected to pay for the parts needed to make the engine run properly. If students can’t locate an engine of their own they may use a donated engine.

1441 Advanced Ag Construction: Plumbing, Concrete & Electricity
School Year Availability: 2015/2016
Credit Value: 0.5
Prerequisite: Completion of 1431 or 1430
Course Level: Level 1
Course is for Students in Grade(s): 10-12
Course Fee: $20.00
Course Weight: 1
Course Description: The goal of the Advanced Construction is to build on the basic skills learned in Agriculture Mechanics 1 and Agriculture Construction. In Advanced Agriculture Construction, students will learn more about finishing a permanent structure. Electrical wiring, plumbing, and masonry are all topics that will be covered. The skills developed have common uses on the farm and in the home. The course will
emphasize proper tool usage and safety, knowledge of materials and construction procedures, building codes and safety standards, as well as business and computer skills.

1437 Agriculture Construction
School Year Availability: 2016/2017
Credit Value: 0.5
Course Level: Level 1
Course Fee: $10.00
Prerequisite: Completion of 1431 or 1430
Course is for Students in Grade(s): 10-12
Course Weight: 1

Course Description: The goal of this Agriculture Mechanics course is to give the individual working knowledge of building construction. The student will receive instruction in planning of a project, developing a bill of materials and carpentry and framing skills. The class will participate in the planning and building of a large storage shed. This project will give students hands-on experience with identification and ordering of construction materials, safe and proper construction tool usage, site preparation, rafter and wall layout, exterior finish work, spray painting and team work. Each student will explore varied agricultural career options in all units studied and relate them to their individual interest, aptitudes and skills.

1438 Ag Machinery & Diesel Mechanics
School Year Availability: 2017/2018
Credit Value: 0.5
Course Level: Level 1
Course Fee: $20.00
Prerequisite: Completion of 1431 or 1430
Course is for Students in Grade(s): 10-12
Course Weight: 1

Course Description: Diesel machinery theory will cover the basic information needed by students to help them enter a career in diesel mechanics. Topics will include diesel engine theory, injector repair and service and injector pump timing. Common trouble shooting skills related to diesel engines mechanics will be explored. The second half of the course will involve tractor and machinery maintenance and calibration. Emphasis will be put on the need for the upkeep of equipment by stressing the value of replacing parts, preventative maintenance, and the loss of working time. Actual experience in adjustment, maintenance, set-up and servicing of tractor engines and other machinery will be covered. Local dealerships will provide equipment for study.

1439 Agricultural Welding
School Year Availability: 2017/2018
Credit Value: 0.5
Course Level: Level 1
Course Fee: $40.00
Prerequisite: Completion of 1431 or 1430
Course is for Students in Grade(s): 10-12
Course Weight: 1

Course Description: This course includes oxygen-acetylene gas welding review, basic arc welding, inert gas welding (MIG and TIG) and plasma cutting. The class emphasizes performance in arc and inert gas welding and the proper use of metal working equipment. Industrial grade welding equipment will be used by students in the Agriculture Mechanics shop. This course begins with a review of the student’s basic knowledge of electric arc welding and applied skills of oxygen-acetylene welding learned in Agriculture Mechanics 1. Students will
learn and demonstrate approved welding and metal working techniques. A take home welding project, paid for by the student, will be constructed as a concluding project of the class.
Agriculture Education Program: Agricultural Science Career and Technical Education Program Pathway

1411  Agriculture Science 1: Introduction to Agriculture, Food, and Natural Resources

School Year Availability: Yearly

Credit Value: 1  Prerequisite: None
Course Level: No Level  Course is for Students in Grade(s): 9-12
Course Fee: $10.00  Course Weight: 1

Course Description: Agriculture Science 1: Introduction to Agriculture, Food, and Natural Resources is an introductory course designed to teach students about the world of agriculture, the pathways of study they may pursue, and the science, mathematics, reading, and writing components they will use throughout the CASE™ curriculum. Woven throughout the course are activities to develop and improve employability skills of students through practical applications. Students will explore career and post-secondary opportunities in each area of the course.

Students’ experiences will involve the study of communication, the science of agriculture, plants, animals, and natural resources. While surveying the opportunities available in agriculture and natural resources, students will learn to solve problems, conduct research, analyze data, work in teams, and take responsibility for their work, actions, and learning. This course is the prerequisite course for all other Ag Science ½ credit elective courses.

1426 Applied Animal Science 3: Horse and Small Animal Management

School Year Availability: 2015/2016

Credit Value: 0.5  Prerequisite: Completion of 1410 or 1411
Course Level: Level 1  Course is for Students in Grade(s): 10-12
Course Fee: $10.00  Course Weight: 1

Course Description: This course will introduce students to the diverse horse and small animal industry. Small animal and horse veterinary first aid skills and practices will be studied. In-depth management topics will include health, housing, nutrition, selection, marketing, nutrient management of these animals. Applied skill areas of judging, and training will also be explored. A lab fee will be collected for field trips.

1423 Agriculture Sales & Marketing: HACC Intro Ag Business

School Year Availability: 2015/2016

Credit Value: 0.5  Prerequisite: 1411 or 1410 & Teacher Approval
Course Level: Dual Enrollment  Course is for Students in Grade(s): 10-12
Course Fee: $10.00  Course Weight: 1.4 (Class of 2016) or 1.2 (All Other Classes)

Course Description: *Only 11th /12th graders will receive 3 college credits from HACC’s College in the High School program for this course. 10th graders can elect the course but cannot receive HACC credit.
This is a COLLEGE COURSE that mirrors the Intro. Ag Business curriculum taught at HACC. The many principals of agribusiness management and economics will be examined. The planning and implementation of an agribusiness marketing plan will be the core of the course. Hands-on classroom instruction in the proper techniques of selling and marketing agriculture products and computer applications to agriculture will be carried out. Risk management and budget analysis will be studied. Students will analyze types of agriculture business structures.

1419 Applied Plant Science 2: *Landscaping & Soil Science*

**School Year Availability:** 2015-2016

- **Credit Value:** 0.5
- **Prerequisite:** Completion of 1410 or 1411
- **Course Level:** Level 1
- **Course is for Students in Grade(s):** 10-12
- **Course Fee:** $10.00
- **Course Weight:** 1

**Course Description:** This Horticulture course develops workplace skills involved in the production of plants including plant functions, plant propagation, pest control and marketing will be reviewed. The Ag greenhouse and nursery will be used to apply plant science skills. An overview of landscape design concepts will be applied to a landscape design client project using Pro Landscape CAD software. Proper identification and usage of landscape plants and horticulture equipment will be required. The science of soil management involves the applied sciences of biology, chemistry, geology and agronomy. The approved practices of soil conservation will be applied to plant production cycles and land use decisions. State and federal environmental regulations as well as agronomy industry certification opportunities will be covered through labs, guest speakers and field trips. Students will be given the opportunity to earn the PA Pesticide Applicator license.

1414 Applied Animal Science 2: *Beef, Sheep & Swine Management*

**School Year Availability:** 2016/2017

- **Credit Value:** 0.5
- **Prerequisite:** Completion of 1410 or 1411
- **Course Level:** Level 1
- **Course is for Students in Grade(s):** 10-12
- **Course Fee:** $10.00
- **Course Weight:** 1

**Course Description:** This beef, sheep and swine applied science course will conduct a comparative anatomy study of livestock systems and functions including skeletal, reproduction, digestion, and mammary. Large animal veterinary skills and best management practices will be studied. In-depth management topics will include health, housing, nutrition, selection, marketing, nutrient management, current issues and global and environmental concerns related to animal science. Field trips will be taken to local livestock producers to observe management practices and career opportunities. Students will evaluate the influence of processed agriculture foods and products from livestock on society. Students will be given the opportunity to earn the national Beef and Pork Quality Assurance industry certifications. Careers skill preparation will be investigated by students while job shadowing a professional in the livestock industry.
1424 Agriculture Biotechnology

School Year Availability: 2016/2017

Credit Value: 0.5                     Prerequisite: Completion of 1410 or 1411
Course Level: Level 1                Course is for Students in Grade(s): 10-12
Course Fee: $10.00                   Course Weight: 1

Course Description: Students will analyze how American agriculture continues to feed an ever-increasing world population with limited resources.

The Ag BioTech course offers students the opportunities to apply principals of biology to current and future modifications of plant and animal DNA to provide advancements in the production of food, fiber, shelter and energy. A basic understanding of plant and animal reproduction will be advanced into the science of agriculture biotechnology. An emphasis will be placed on research techniques and laboratory experiences to simulate the agriculture biotechnology work place. Farm crop production systems including corn, soybeans, grasses, small grains and alt energy biomass crops will be examined. Agriculture Biotech industry tours will be taken to explore agriculture biotech career opportunities.

1416 Agriculture Processing: Food Sciences and Dairy & Meat Processing

School Year Availability: 2017/2018

Credit Value: 0.5                     Prerequisite: Completion of 1410 or 1411
Course Level: Level 1                Course is for Students in Grade(s): 10-12
Course Fee: $20.00                   Course Weight: 1

Course Description: Agriculture is more than farming. The agriculture processing industry has become one of advance technology and applied sciences and provides consumers with superior quality food products that require highly skilled workers. Students will evaluate the impact of processed agriculture foods and products on current and future lifestyles. Topics will include dairy and meat processing, factory processing of agriculture products, food inspection systems, and the marketing of the processed products.

Hands-on labs will involve meat quality identification, dairy foods evaluation, processing of several agriculture products and the examination of the global food supply. Field trips to food processing facilities will be taken to see, first hand, the technology and careers in ag processing.

1413 Applied Animal Science 1: Dairy & Poultry Management

School Year Availability: 2017/2018

Credit Value: 0.5                     Prerequisite: Completion of 1410 or 1411
Course Level: Level 1                Course is for Students in Grade(s): 10-12
Course Fee: $10.00                   Course Weight: 1

Course Description: This dairy and poultry applied science course will conduct a comparative anatomy study of livestock systems and functions including skeletal, reproduction, digestion, and mammary. Dairy and poultry veterinary skills and best management practices will be studied. In-depth management topics will include health, housing, nutrition, selection, marketing, nutrient management, current issues and global and environmental concerns related to animal science.
Field trips will be taken to local livestock producers to observe management practices and career opportunities. Students will be given the opportunity to earn the national Beef Quality Assurance industry certification. Careers skill preparation will be investigated by students while job shadowing a professional in the livestock industry.

**1418 Applied Plant Science 1: Greenhouse Management and Floral Design**

*School Year Availability:* 2017/2018

**Credit Value:** 0.5  
**Prerequisite:** Completion of 1410 or 1411  
**Course Level:** Level 1  
**Course is for Students in Grade(s):** 10-12  
**Course Fee:** $30.00  
**Course Weight:** 1

**Course Description:** The cultural practices involved in the production of plants in a greenhouse setting including plant functions, soil preparation, plant propagation, fertilization and pest control will be covered. Basic flower arranging design techniques and skills will be reviewed. Flowers and floriculture supplies will be identified. The sales and marketing skill of a florist will be reviewed. Environmental concerns and current issues facing the plant science industry will be reviewed. The Ag Program greenhouse and tree nursery will be used to apply plant science skills learned in class. Students will be given the opportunity to earn the PA Pesticide Applicator license.

The career fields of horticulture including greenhouse engineering, bedding plant production, floral arranging and greenhouse management will be explored through hands on labs, field trips and student research.

**1464 Senior SAE, Fall Semester: Vocational Ag-Ed Skill Development**

*School Year Availability:* Yearly during Block(s) 3 and/or 4

**Credit Value:** 1 or 2  
**Prerequisite:** See below & Teacher Approval  
**Course Level:** Level 1  
**Course is for Students in Grade(s):** 12  
**Course Fee:** None  
**Course Weight:** 1

**Course Description:** Student must have a "C" or better in the following Ag Ed department courses. Ag Science I and/or Ag Mech I, PLUS 1 1/2 credits in Agriculture Program courses.

This culminating fourth year Agriculture Education course will require students to understand and demonstrate the importance of relating their academic and vocational skills to their ability to seek, obtain and maintain a job. This program consists of on-the-job training, which is provided by the local employer and supervised by the agricultural instructors. Record books must be kept by the student, and will include hours worked, skills learned, and a work agreement signed by the employer, student, Ag-Ed instructor and parents. A quarterly work performance evaluation is required of the employer.
1465 Senior SAE, Spring Semester: Vocational Ag-Ed Skill Development

School Year Availability: Yearly during Block(s) 3 and/or 4
Credit Value: 1 or 2
Prerequisite: See below & Teacher Approval
Course Level: Level 1
Course is for Students in Grade(s): 12
Course Fee: None
Course Weight: 1
Course Description: Student must have a "C" or better in the following Ag Ed department courses. Agriculture Science I and/or Agriculture Mechanics I, plus 1.5 credits in Agriculture Program courses.

This culminating fourth year Agriculture Education course will require students to understand and demonstrate the importance of relating their academic and vocational skills to their ability to seek, obtain and maintain a job. This program consists of on-the-job training, which is provided by the local employer and supervised by the agricultural instructors. Record books must be kept by the student, and will include hours worked, skills learned, and a work agreement signed by the employer, student, Ag-Ed instructor and parents. A quarterly work performance evaluation is required of the employer.

1445 SAE: Supervised Ag Experience Program

School Year Availability: Yearly
Credit Value: 1
Prerequisite: Enrolled in an ag elective
Course Level: No Level
Course is for Students in Grade(s): 9-12
Course Fee: None
Course Weight: 1
Course Description: The Supervised Agricultural Experience program (SAE) is an experiential learning independent study record keeping class for all students who are enrolled in an agriculture elective course. Example SAE projects are listed on ManheimAg.org website. Yearly SAE projects must have a minimum of 150 hours of student time (outside of class time) to earn a SAE credit. Students are required to review their SAE record books with their Agriculture instructor at least once per term. Students may be assigned to an agriculture teacher’s Enrichment Advisory to facilitate the SAE project supervision. Grading for this SAE course will be Pass/Fail. Students can earn up to four SAE credits over four years of enrollment in Agriculture Education courses.

0562 AgriEcology

Credit Value: 1
Prerequisite: Biology and suggested 1410 or 1411
Course Level: No Level
Course is for Students in Grade(s): 11 and 12
Course Fee: $10.00
Course Weight: 1
Course Description: This dual credit Agriculture and Science course will acquaint students with our most important natural resources: Land, Forests, Water & Watersheds, Flora, and Fauna. Students will explore connections between human populations, energy use, and climate change as well. Students will analyze the interdependence and life cycles within an ecosystem. Hands-on labs will include water quality analysis, habitat development, timber stand improvement, soil conservation, and effects of pollution. We have finite natural resources, and stewardship of the environment is a growing career field. Students will work with local wildlife protectors, land managers and government regulators to explore career opportunities.
1425 AP Environmental Science

Credit Value: 1  Prerequisite: 75% or higher in 0510 and 0514
Course Level: Advanced Placement  Course is for Students in Grade(s): 11 and 12
Course Fee: TBD  Course Weight: 1.4 (Class of 2016) or 1.3 (All Other Classes)

Course Description: The AP Environmental Science course is designed to be the equivalent of a one-semester, introductory college course in environmental science. The goal of the AP Environmental Science course is to provide students with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving or preventing them. Hands on labs and field trips will be conducted throughout the course. There will be daily connections made regarding future career opportunities in the Ecology, Environment and Agriculture fields with a focus on employability skills.

0560 Environment, Ecology and Engineering

Credit Value: 0.5  Prerequisite: None
Course Level: No Level  Course is for Students in Grade(s): 9
Course Fee: None  Course Weight: 1

Course Description: This cross curricular Agriculture, Technology Education and Science course will create a student understanding of ecology, the environment and engineering through critical thinking and experiential learning activities. Science and Math concepts will be applied to problem solving involving technology, engineering and agriculture. An agriculture connection to the sustainable use of natural resources will be made through laboratory experiences and research activities. Students will study applied science topics such as biomes, land use, water quality, stewardship, and environmental agencies and will examine their own perceptions of the environment throughout the CASE™ EEE curriculum. Students will apply problem solving and critical thinking skills using CAD software, CNC manufacturing equipment and engineering principles. There will be daily connections made regarding career opportunities in the Ecology, Environment and Engineering fields with a focus on employability skills.
## Art

### Course Listing

*Courses denoted with a * fulfill the Arts and Humanities graduation requirement.*

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<tr>
<td>Computer Art 5</td>
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</table>
Art

The courses denoted with a * offer choices within the Art department that would fulfill the Arts and Humanities graduation requirement. All courses offer a way for students to experience the arts in an interdisciplinary setting.

0724 Drawing and Painting 1*

Credit Value: 0.5  Prerequisite: None
Course Level: No Level  Course is for Students in Grade(s): 9-12
Course Fee: $25.00  Course Weight: 1

Course Description: This course provides an introduction to a variety of techniques, styles, and media in two-dimensional art. Work will be done from actual objects, still life, models and reference photographs. The course will emphasize basic drawing and painting skills, while recognizing the importance of imagination and self-expression. The structure of the introductory level art courses is intended to meet the needs of all students as well as prepare them for the individualized curriculum of our higher tiered courses. A studio fee will be charged. This course may not be repeated.

0725 Drawing and Painting 2

Credit Value: 0.5  Prerequisite: 70% or higher in 0724
Course Level: No Level  Course is for Students in Grade(s): 9-12
Course Fee: $25.00  Course Weight: 1

Course Description: This course will emphasize individual exploration of techniques, styles, and media in two-dimensional art. Students will have the freedom to structure their course work based on their individual interests and possible career paths. Work will continue to be done from actual objects, still life, models and reference photographs, while stressing the importance of imagination and self-expression. Writing and research are integral components of the creative process and will be stressed as necessary course work towards making informed creative decisions. A studio fee will be charged. This course may not be repeated.

0727 Drawing and Painting 3

Credit Value: 0.5  Prerequisite: 80% or higher in 0725
Course Level: No Level  Course is for Students in Grade(s): 10-12
Course Fee: $25.00  Course Weight: 1

Course Description: This course will strongly emphasize individual exploration of techniques, styles, and media in two-dimensional art. You will focus on and begin to establish your artistic style. Students will have the freedom to structure their course work based on their individual interests and possible career paths. Work will continue to be done from actual objects, still life, models and reference photographs, while stressing the importance of imagination and self-expression. Writing and research are integral components of the creative process and will be stressed as necessary course work towards making informed creative decisions. A studio fee will be charged. This course may not be repeated.
0728 Drawing and Painting 4
Credit Value: 0.5  Prerequisite: 80% or higher in 0727 and Teacher Approval
Course Level: No Level  Course is for Students in Grade(s): 10-12
Course Fee: $25.00  Course Weight: 1
Course Description: This in-depth course is a rigorous studio exploration in Drawing and Painting for the SERIOUS art student. A strong emphasis will be placed on personal style development and individual artistic growth. Work produced in this class will be focused on portfolio development. A studio fee will be charged. This course may not be repeated.

0729 Drawing and Painting 5
Credit Value: 0.5  Prerequisite: 80% or higher in 0728 and Teacher Approval
Course Level: No Level  Course is for Students in Grade(s): 10-12
Course Fee: $25.00  Course Weight: 1
Course Description: This in-depth course is an intense and rigorous studio exploration in Drawing and Painting for the SERIOUS art student that is planning to attend an art-focused school or planning a career in the visual arts. There will be a strong focus on personal style development and individual artistic growth. Work produced in this class will be based on portfolio development. A studio fee will be charged. This course may not be repeated.

0733 Computer Art-Graphic Design
Credit Value: 0.5  Prerequisite: None
Course Level: No Level  Course is for Students in Grade(s): 9-12
Course Fee: Varies  Course Weight: 1
Course Description: This course is designed to introduce students to a studio-based experience in computer art and graphic design. Students are encouraged to explore a variety of approaches and styles while creatively solving problems and expressing ideas. The structure of the introductory level art courses is intended to meet the needs of all students as well as prepare them for the individualized curriculum of our higher tiered courses. A studio fee will be charged. This course may not be repeated.

0753 Computer Art-Animation
Credit Value: 0.5  Prerequisite: None
Course Level: No Level  Course is for Students in Grade(s): 9-12
Course Fee: Varies  Course Weight: 1
Course Description: This course is designed to introduce students to a studio-based experience in animation and computer art. Students are encouraged to explore a variety of approaches and styles while creatively solving problems and expressing ideas. The structure of the introductory level art courses is intended to meet the needs of all students as well as prepare them for the individualized curriculum of our higher tiered courses. This course may not be repeated.
0734 Computer Art 2

Credit Value: 0.5
Prerequisite: 70% or higher in 0733 or 0753
Course Level: No Level
Course is for Students in Grade(s): 9-12
Course Fee: Varies
Course Weight: 1

Course Description: This course is designed for the serious computer art student interested in continuing their graphic design or animation experience. Students will have the freedom to structure their course work based on their individual interests and possible career paths. A strong emphasis will be placed on using the computer as an artistic tool for communicating ideas. Students will continue to explore the incorporation of creativity and self-expression in commercial art, graphic design, and illustration. Writing and research are integral components of the creative process and will be stressed as necessary course work towards making informed creative decisions. A studio fee will be charged. This course may not be repeated.

0735 Computer Art 3

Credit Value: 0.5
Prerequisite: 80% or higher in 0734
Course Level: No Level
Course is for Students in Grade(s): 10-12
Course Fee: Varies
Course Weight: 1

Course Description: This course is designed for the SERIOUS computer art student interested in continuing their graphic design or animation experience. Students will have the freedom to structure their course work based on their individual interests and possible career paths. A strong emphasis will be placed on using the computer as an artistic tool for communicating ideas. You will focus on and begin to establish your artistic style. Students will continue to explore the incorporation of creativity and self-expression in commercial art, graphic design, digital illustration, and animation. Writing and research are integral components of the creative process and will be stressed as necessary course work towards making informed creative decisions. A studio fee will be charged. This course may not be repeated.

0736 Computer Art 4

Credit Value: 0.5
Prerequisite: 80% or higher in 0735 and Teacher Approval
Course Level: No Level
Course is for Students in Grade(s): 10-12
Course Fee: Varies
Course Weight: 1

Course Description: This intense course is designed for the SERIOUS computer art student who is pursuing a future in graphic design, computer art, or animation. A strong emphasis will be placed on individualized portfolio development. Through teacher/student conferences, students will be able to direct their experience towards developing their artistic needs.

0737 Computer Art 5

Credit Value: 0.5
Prerequisite: 80% or higher in 0736 and Teacher Approval
Course Level: No Level
Course is for Students in Grade(s): 10-12
Course Fee: Varies
Course Weight: 1

Course Description: This intense course is designed for the SERIOUS computer art student who is pursuing a future in graphic design, computer art, or animation. That includes students that are planning to attend an art-
focused school or planning a career in the visual arts. An emphasis will be placed on individualized portfolio development. Through teacher/student conferences, students will be able to direct their experience towards developing their artistic needs.

0755 Sculpture 1

Credit Value: 0.5  Prerequisite: None
Course Level: No Level  Course is for Students in Grade(s): 9-12
Course Fee: $25.00  Course Weight: 1

Course Description: This course provides an introduction to a variety of techniques, styles, and materials in three-dimensional art. Sculpture I emphasizes experimentation in basic sculptural form, while recognizing the importance of imagination and self-expression. The structure of the introductory level art courses is intended to meet the needs of all students as well as prepare them for the individualized curriculum of our higher tiered courses. A studio fee will be charged. This course may not be repeated.

0756 Sculpture 2

Credit Value: 0.5  Prerequisite: 70% or higher in 0755
Course Level: No Level  Course is for Students in Grade(s): 9-12
Course Fee: $25.00  Course Weight: 1

Course Description: This course is based on intensive personalized studio work and is for the student who finds success working in three-dimensional shape and form. Students will have the freedom to structure their course work based on their individual interests and possible career paths. This course provides a variety of techniques, styles, and media in three-dimensional art. Writing and research are integral components of the creative process and will be stressed as necessary course work towards making informed creative decisions. Imagination and self-expression are the key elements in this course. A studio fee will be charged. This course may not be repeated.

0757 Sculpture 3

Credit Value: 0.5  Prerequisite: 80% or higher in 0756
Course Level: No Level  Course is for Students in Grade(s): 10-12
Course Fee: $25.00  Course Weight: 1

Course Description: This course is based on personalized studio work and is for the student who wants to develop their visual repertoire by working in three-dimensional shape and form. Students will have the freedom to structure their course work based on their individual interests and possible career paths. This course provides a variety of techniques, styles, and media in three-dimensional art. You will also find a stylistic approach to your sculpture. Imagination and self-expression are the key elements in this course. Writing and research are integral components of the creative process and will be stressed as necessary course work towards making informed creative decisions. A studio fee will be charged. This course may not be repeated.
0758 Sculpture 4
Credit Value: 0.5
Prerequisite: 80% or higher in 0757 and Teacher Approval
Course Level: No Level
Course is for Students in Grade(s): 10-12
Course Fee: $25.00
Course Weight: 1
Course Description: This course is based on extremely rigorous and intensive personalized studio work and is for the SERIOUS art student who finds success working in three-dimensional shape and form. There is intensive individual exploration through sculptural form. A strong emphasis will be placed on personal style development and individual artistic growth. Imagination and self-expression are the key elements in this course. Work produced in this class will be focused on portfolio development. A studio fee will be charged. This course may not be repeated.

0759 Sculpture 5
Credit Value: 0.5
Prerequisite: 80% or higher in 0758 and Teacher Approval
Course Level: No Level
Course is for Students in Grade(s): 10-12
Course Fee: $25.00
Course Weight: 1
Course Description: This course is based on extremely rigorous and intensive personalized studio work and is for the SERIOUS art student that is planning to attend an art-focused school or planning a career in the visual arts. There is intensive individual exploration through sculptural form. A strong emphasis will be placed on personal style development and individual artistic growth. Imagination and self-expression are the key elements in this course. Work produced in this class will be focused on portfolio development. A studio fee will be charged. This course may not be repeated.

0748 Ceramics 1*
Credit Value: 0.5
Prerequisite: None
Course Level: No Level
Course is for Students in Grade(s): 9-12
Course Fee: $25.00
Course Weight: 1
Course Description: Students will create projects that include techniques such as hand building, sculpting, and throwing on the wheel. The course will contain projects made in functional and non-functional forms. Ceramics I emphasizes experimentation in basic form, while recognizing the importance of imagination and self-expression. The structure of the introductory level art courses is intended to meet the needs of all students as well as prepare them for the individualized curriculum of our higher tiered courses. A studio fee will be charged. This course may not be repeated.

0749 Ceramics 2
Credit Value: 0.5
Prerequisite: 70% or higher in 0748
Course Level: No Level
Course is for Students in Grade(s): 9-12
Course Fee: $25.00
Course Weight: 1
Course Description: This course is based on intensive personalized studio work and is for the student who finds success working with clay shape and form. Students will create projects that include techniques such as hand building, sculpting, and throwing on the wheel. This course will contain projects made in functional and
non-functional forms. There is intensive individual exploration in clay as a medium. Imagination and self-expression are the key elements in this course. A studio fee will be charged. This course may not be repeated.

**0750 Ceramics 3**

**Credit Value:** 0.5  
**Prerequisite:** 80% or higher in 0749

**Course Level:** No Level  
**Course is for Students in Grade(s):** 10-12

**Course Fee:** $25.00  
**Course Weight:** 1

**Course Description:** This course is based on intensive personalized studio work and is for the SERIOUS student who finds success working with clay and wants to develop their visual repertoire. Students will create projects that include techniques such as hand building, sculpting, and throwing on the wheel. The course will contain projects made in functional and non-functional forms. There is intensive individual exploration in clay as a medium as well as developing personal and stylistic approach to your work. Imagination and self-expression are the key elements in this course. A studio fee will be charged. This course may not be repeated.

**0751 Ceramics 4**

**Credit Value:** 0.5  
**Prerequisite:** 80% or higher in 0750 and Teacher Approval

**Course Level:** No Level  
**Course is for Students in Grade(s):** 10-12

**Course Fee:** $25.00  
**Course Weight:** 1

**Course Description:** This course is based on extremely rigorous and intensive personalized studio work and is for the SERIOUS art student who finds success working in three-dimensional shape and form through clay. Students will create projects that include techniques such as hand building, sculpting, and throwing on the wheel. The course will contain projects made in functional and non-functional forms. There is intensive individual exploration through clay as a medium. A strong emphasis will be placed on personal style development and individual artistic growth. Imagination and self-expression are the key elements in this course. Work produced in this class will be focused on portfolio development. A studio fee will be charged. This course may not be repeated.

**0752 Ceramics 5**

**Credit Value:** 0.5  
**Prerequisite:** 80% or higher in 0751 and Teacher Approval

**Course Level:** No Level  
**Course is for Students in Grade(s):** 10-12

**Course Fee:** $25.00  
**Course Weight:** 1

**Course Description:** This course is based on extremely rigorous and intensive personalized studio work and is for the SERIOUS art student that is planning to attend an art-focused school or planning a career in the visual arts. Students will create projects that include techniques such as hand building, sculpting, and throwing on the wheel. The course will contain projects made in functional and non-functional forms. There is intensive individual exploration through clay as a medium. A strong emphasis will be placed on personal style development and individual artistic growth. Imagination and self-expression are the key elements in this course. Work produced in this class will be focused on portfolio development. A studio fee will be charged. This course may not be repeated.
**Business Education**  
**Course Listing**

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0808 Introduction To Business

Credit Value: 0.5
Prerequisite: None

Course Level: No Level
Course is for Students in Grade(s): 9-12

Course Fee: None
Course Weight: 1

Course Description: This course will serve as an introduction to the exciting and challenging world of business and will serve as a foundation for other business courses. The topics covered will help students understand how businesses function and how individuals make decisions. Other areas that will be addressed will include: how businesses are organized, how products are marketed and how small businesses operate. Knowledge of these topics will allow students to better understand how they fit into the world marketplace, their future employment and perhaps even business ownership.

0816 Entrepreneurship

Credit Value: 1
Prerequisite: None

Course Level: No Level
Course is for Students in Grade(s): 10-12

Course Fee: None
Course Weight: 1

Course Description: This course is designed to provide an understanding of how to create and manage a small business. Several computer simulations are used to master entrepreneurial skills. Additionally, students will research, plan, and market a product with proceeds distributed to shareholders and charitable organizations.

0820 Accounting I

Credit Value: 1
Prerequisite: None

Course Level: No Level
Course is for Students in Grade(s): 10-12

Course Fee: None
Course Weight: 1

Course Description: This course helps you develop an understanding of the language of business – accounting. Students will learn and practice the accounting cycle which includes analyzing transactions, journalizing, posting, preparing a worksheet, preparing financial statements, journalizing adjusting and closing entries, posting adjusting and closing entries, and preparing a post-closing trial balance. Students will use Quick Books Pro, the most-used small business accounting software, to expose them to real-world experiences.

0822 Accounting II

Credit Value: 1
Prerequisite: 80% or higher in 0820

Course Level: No Level
Course is for Students in Grade(s): 11 and 12

Course Fee: None
Course Weight: 1
Course Description: This advanced course helps you develop an understanding of the accounting principles used in managerial and financial accounting. Students will evaluate financial statements of several top corporations in the United States.

0826 International Business
Credit Value: 0.5  Prerequisite: 80% or higher in 0808
Course Level: Level 1  Course is for Students in Grade(s): 11 and 12
Course Fee: None  Course Weight: 1
Course Description: This course will provide the foundation for studying international business and the many aspects of conducting business in the global economy. Students will develop the appreciation, knowledge, skills and abilities needed to live and work in a global marketplace. Topics such as international law, foreign exchange, government regulations, and conducting business within diverse cultures will be addressed. We will utilize the Case Study Method for exploring various business scenarios.

0828 Stock Market Investing
Credit Value: 0.5  Prerequisite: None
Course Level: No Level  Course is for Students in Grade(s): 9-12
Course Fee: None  Course Weight: 1
Course Description: This course will provide the foundation for investing in the stock market. Students will learn the fundamentals of investing which include stock screening techniques, company research, and risk analysis. Computer-based simulation will be used to practice investing knowledge. Additionally, qualifying students will invest real money in the stock market as members of the Manheim Central Student Investment Club.

0840 Sports Marketing & Management
Credit Value: 0.5  Prerequisite: None
Course Level: No Level  Course is for Students in Grade(s): 10-12
Course Fee: None  Course Weight: 1
Course Description: This course introduces the student to the concepts of marketing products and services to consumers in the sports industry. Along with understanding the basic principles of marketing and management, students will use computer simulations to practice acquired skills. Additionally, students will promote a current Manheim Central athletic team by applying knowledge to execute a Baron Nation event.

0832 Fashion Merchandising
Credit Value: 0.5  Prerequisite: 70% or higher in 0808
Course Level: No Level  Course is for Students in Grade(s): 10-12
Course Fee: None  Course Weight: 1
Course Description: Are you interested in pursuing a career in fashion? This course will introduce students to the history and fundamentals of fashion, consumer demand, textile science, and retailing. Topics include e-
commerce, global trade agreements, fashion forecasting, as well as marketing to the end consumer. Students will investigate current trends in store planning and design, advertising and supply chain management.

0836 Business Law

Credit Value: 0.5  
Prerequisite: 70% or higher in 0808

Course Level: Level 1  
Course is for Students in Grade(s): 11 and 12

Course Fee: None  
Course Weight: 1

Course Description: What happens when a product causes injury...how are contracts formed and enforced....if I get hurt at work or discriminated against what can I do? These issues are real-life situations which many people face, and we are going to explore how the non-criminal judicial system deals with them. This is an upper level class designed to explore the business side of the law. We will focus on Contract Law, Product Liability, Employment Law, Legal Forms of Business Ownership and Property Law. Through the utilization of case studies, law briefs and student delivered content we will learn about how our laws govern commerce.

0842 Careers and Your Money

Credit Value: 0.5  
Prerequisite: None

Course Level: No Level  
Course is for Students in Grade(s): 9-11

Course Fee: None  
Course Weight: 1

Course Description: Careers and Your Money is a 9 week class which explores Career Options and Personal Finance Topics. The goal is to allow students to focus on their future as it relates to what they might do for a living and how they might manage their financial resources. Students will engage in a variety of career exploration activities and use CareerCruising.com (a district provided resource) to evaluate career opportunities. In addition to that, learning about how pay is received, taxed and subsequently managed is an important part of living in the adult world. Therefore, topics such as budgeting, housing, banking, credit (consumer law), and taxes will be covered.
## Computer Education Course Listing

<table>
<thead>
<tr>
<th>Microsoft Office 2013</th>
<th>Intro Programming-Visual Basic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced Microsoft Word 2013</td>
<td>21st Century Skills for Success</td>
</tr>
<tr>
<td>Advanced Microsoft Excel 2013</td>
<td></td>
</tr>
</tbody>
</table>
Computer Education

0904 Microsoft Office 2013
Credit Value: 0.5  Prerequisite: None
Course Level: No Level  Course is for Students in Grade(s): 9
Course Fee: None  Course Weight: 1
Course Description: This course is designed to provide 21st century, critical thinking skills necessary for success in both educational and employment environments. Instruction emphasizes the operation and features of the Windows 7 Operating System, Microsoft Word®, Excel®, PowerPoint® to complete real-world assignments and projects. In addition multimedia Web 2.0 applications will be explored. Successful completion of this course qualifies the student for enrollment into Advanced Microsoft Word® 2013 and Advanced Microsoft Excel® 2013. Note that 8th grade students may take a test in order to demonstrate mastery of the material and "test out" of this class.

0906 Advanced Microsoft Word 2013
Credit Value: 0.5  Prerequisite: 80% in 0904
Course Level: No Level  Course is for Students in Grade(s): 9-12
Course Fee: None  Course Weight: 1
Course Description: This course is designed to build on the Microsoft Word® 2013 skills acquired in Microsoft Office 2013. By using Microsoft Word®, students will be able to communicate and share ideas effectively. Mail Merge, Templates, Resumes are some of the topics to be covered. This essential application is the standard for both education and business environments.

Successful completion of this course will prepare you to take the Microsoft Office Specialist – MOS Exam for Word® 2013 certification test. However, taking the test is not a course requirement.*

0910 Advanced Microsoft Excel 2013
Credit Value: 0.5  Prerequisite: 80% in 0904
Course Level: No Level  Course is for Students in Grade(s): 9-12
Course Fee: None  Course Weight: 1
Course Description: This course is designed to build on the Microsoft Excel® 2013 skills acquired in Microsoft Office 2013. Topics covered include creating and manipulating data, formatting data and content, creating and modifying formulas, presenting data visually, and collaborating and securing data. Successful completion of this course will prepare you for the Microsoft Office Specialist – MOS Exam for Excel® 2013 certification test.

0913 Intro Programming-Visual Basic
Credit Value: 0.5  Prerequisite: 70% in 0904, 0906 or 0910
Course Level: No Level  Course is for Students in Grade(s): 10-12
Course Fee: None  Course Weight: 1
Course Description: This course introduces students to programming using Microsoft Visual Basic®. No programming experience is required. Students will create programs using constants and variables. They will control programs with decision and loop structures. In addition, students will create algorithms using logical operators and random number generation. The use of procedures and arrays will be introduced along with basic math and business functions.

0917 21st Century Skills for Success (Pending Board Approval)

Credit Value: 0.5
Prerequisite: None
Course Level: No Level
Course is for Students in Grade(s): 9-12
Course Fee: None
Course Weight: 1

Course Description: You’ve heard of Prezi and Moodle, but do you know Powtoon and Schoology? The internet is a constantly evolving source of information and interactive tools which require Learning and Innovation Skills, Information, Media/Technology Skills, and Life/Career Skills for success in the 21st Century. Students will use web-based tools for interactive, independent and collaborative projects relevant to digital natives – that’s YOU! Problem solving, creativity, information literacy, and initiative are necessary skills to compete in our global learning community. Learn how to develop an e-portfolio with your digital footprint that leaves an impression.
English Language Arts
Course Listing and Sequence

Please note this is a suggested sequence of courses and students may choose to take more than one English Language Arts course in a school year.

<table>
<thead>
<tr>
<th>Level</th>
<th>9th Grade</th>
<th>10th Grade</th>
<th>11th Grade</th>
<th>12th Grade</th>
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<tbody>
<tr>
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<td>Honors 9th Grade Language Arts</td>
<td>Honors 10th Grade Language Arts</td>
<td>Honors American Literature</td>
<td>AP English Honors 12th Language Arts</td>
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<td>Level 1</td>
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<td>10th Grade Language Arts, Lvl 1</td>
<td>Survey of American Lit, Lvl 1</td>
<td>12th Language Arts, Lvl 1</td>
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</tbody>
</table>
| Level 2   | 9th Grade Language Arts, Lvl 2  
9th Language Arts, Lvl 2 Part 1 and 2 | 10th Grade Language Arts, Lvl 2  
10th Language Arts, Lvl 2 Part 1 and 2 | The Best of American Lit, Lvl 2               | 12th Language Arts, Lvl 2                    |
| Electives | Communications Mythology and Modern Man        | Communications Mythology and Modern Man       | Communications Mythology and Modern Man  
Creative Writing  
Literature Keystone Project | Communications Mythology and Modern Man  
Creative Writing  
Literature Keystone Project |

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English Language Arts

0205 Honors 9th Grade Language Arts
Credit Value: 1
Prerequisite: District Data and Criteria
Course Level: Honors
Course is for Students in Grade(s): 9
Course Fee: None
Course Weight: 1 (Class of 2016) or 1.2 (All Other Classes)
Course Description: This course is suggested for those students who aspire to continue their study of English in an Advanced Placement course as seniors. A brief review of the writing skills sequence leads to composition assignments requiring interpretive and applied levels of response to literature.

The literature program focuses on short stories, the novel, poetry, and Shakespeare’s Romeo and Juliet, as well as readings in informational texts. Speaking skills are reinforced through classroom discussions, oral reports, and enrichment activities. Communication skills are developed and refined through extensive grammar and vocabulary studies. There is a required summer reading for this course.

0206 9th Grade Language Arts, Lvl 1
Credit Value: 1
Prerequisite: Teacher Approval
Course Level: Level 1
Course is for Students in Grade(s): 9
Course Fee: None
Course Weight: 1
Course Description: Ninth grade Language Arts begins with a comprehensive focus on the writing process. A progressive grammatical skills and review sequence is included in this course, as well as extensive vocabulary study.

The primary objective of the literature program is for students to understand and appreciate literary style and convention, both through analysis and student composition. The literature program focuses on short stories, the novel, poetry, and Shakespeare’s Romeo and Juliet, as well as readings in informational texts. Speaking skills are reinforced through classroom discussions and oral reports.

0208 9th Grade Language Arts, Lvl 2
Credit Value: 1
Prerequisite: Teacher Approval
Course Level: Level 2
Course is for Students in Grade(s): 9
Course Fee: None
Course Weight: 1
Course Description: The semester includes a general review of basic grammatical concepts. Special emphasis is placed on punctuation, capitalization, sentence structure, and agreement. The writing skills sequence includes effective sentence writing, paragraph development, and writing process assignments.

Students are guided beyond a literal comprehension to an understanding of literary style and convention. The literature program focuses on short stories, the novel, poetry, and Shakespeare’s Romeo and Juliet, as well as readings in informational texts. Speaking skills are reinforced through classroom discussions and presentations.
0203 9th Language Arts, Lvl 2 Part 1
Credit Value: 1
Prerequisite: District Criteria
Course Level: Level 2
Course is for Students in Grade(s): 9
Course Fee: None
Course Weight: 1
Course Description: Part 1 of this full-year English class will focus on strengthening skills in writing in a variety of genres and reading a wide selection of literary texts in order to prepare students for success. Part 1 and part 2 must be taken during the same year.

0204 9th Language Arts, Lvl 2 Part 2
Credit Value: 1
Prerequisite: District Criteria
Course Level: Level 2
Course is for Students in Grade(s): 9
Course Fee: None
Course Weight: 1
Course Description: Part 2 of this full-year English class will focus on improving reading ability through a variety of strategies aimed at strengthening students' skill levels. Student will receive one elective Language Arts credit for successful completion of this course.

0211 Honors 10th Grade Language Arts
Credit Value: 1
Prerequisite: 80% or higher in 0205 or teacher approval
Course Level: Honors
Course is for Students in Grade(s): 10
Course Fee: None
Course Weight: 1 (Class of 2016) or 1.2 (All Other Classes)
Course Description: For the motivated, independent student, this course challenges college-bound students to maximize their potential and reach beyond mastery level in the areas of reading, writing, speaking and listening. Approaches to learning prepare students for AP and college-level courses in the future. Emphasis is placed on building strategies for analyzing increasingly difficult print and non-print text and for creating a variety of formal and informal written and oral responses to those texts with increasing depth, style, and sophistication. There is a summer reading requirement for this course. Students will take the Keystone Literature Exam.

0210 10th Grade Language Arts, Lvl 1
Credit Value: 1
Prerequisite: 70% or higher in 0206 or teacher approval
Course Level: Level 1
Course is for Students in Grade(s): 10
Course Fee: None
Course Weight: 1
Course Description: This course challenges college-bound students to attain mastery level in the areas of reading, writing, speaking, and listening. Emphasis is placed on building strategies for analyzing increasingly difficult print and non-print text and for creating a variety of formal and informal written and oral responses to those texts with increasing depth, style, and sophistication. Writing workshops address all matters of composition (clarity, voice, sentence structure, diction, usage, grammar, and punctuation) to prepare students for complex writing tasks. A major research paper, as well as frequent reading and writing assignments, are required. Students will take the Keystone Literature Exam.
0212 10th Grade Language Arts, Lvl 2
Credit Value: 1  Prerequisite: Completion of 0208
Course Level: Level 2  Course is for Students in Grade(s): 10
Course Fee: None  Course Weight: 1
Course Description: Improving reading skill, especially in the comprehension and interpretation of literature, and increasing proficiency in oral and written expression are the fundamental goals of this course.

Students striving for a comprehensive mastery of communication and language application skills will be involved in a regimen of studies that will strengthen core knowledge and performance. Vocabulary study, inferential skills, and the development of clear, well-organized paragraphs and compositions will be areas of major emphasis. Students will continue to read, analyze, and interpret various literary genres. Students will take the Keystone Literature Exam.

0201 10th Language Arts, Lvl 2 Part 1
Credit Value: 1  Prerequisite: District Criteria
Course Level: Level 2  Course is for Students in Grade(s): 10
Course Fee: None  Course Weight: 1
Course Description: Part 1 of this full-year English class will focus on strengthening skills in writing in a variety of genres and reading a wide selection of literary texts in order to prepare students for success. Students must take part 1 and part 2 during the same year.

0202 10th Language Arts, Lvl 2 Part 2
Credit Value: 1  Prerequisite: District Criteria
Course Level: Level 2  Course is for Students in Grade(s): 10
Course Fee: None  Course Weight: 1
Course Description: Part 2 of this full-year English class will focus on improving reading ability through a variety of strategies aimed at strengthening students' skill levels. Students will earn one elective Language Arts credit for successful completion of this course. Students will take the Keystone Literature Exam.

0215 Honors American Literature
Credit Value: 1  Prerequisite: 80% or higher in 0211 or teacher approval
Course Level: Honors  Course is for Students in Grade(s): 11
Course Fee: None  Course Weight: 1 (Class of 2016) or 1.2 (All Other Classes)
Course Description: Designed for the college-bound, academically-curious student, this course provides a serious, comprehensive study of American Literature. Its objective is to develop in the student an understanding of and appreciation for the varied forms of literature by exploring the themes, styles, and points of view of specific American authors. Components of this curriculum include the novel, drama, poetry, short story, essay, and non-fiction, beginning with those of the seventeenth century and culminating with those of the twentieth. This course also includes systematic vocabulary study, an in-depth critical analysis of one American author, and various short essays. There is a summer reading requirement for this course.
0214 Survey of American Lit, Lvl 1
Credit Value: 1  Prerequisite: 70% or higher in 0210 or teacher approval
Course Level: Level 1  Course is for Students in Grade(s): 11
Course Fee: None  Course Weight: 1
Course Description: This course is recommended for the student who shows proficiency in English. Composition assignments are based on required readings by major American authors and include short essays, literary analyses, creative writings and an author research project. Readings include a novel, drama, poetry, short stories, essays, and non-fiction pieces written by classic American authors. Regular vocabulary study for SAT preparation is also a component of this course. Additional requirements include independent reading of supplementary American novels, oral presentations, and objective and subjective tests. Videos will be used to enhance novel and short story readings.

0216 The Best of American Lit, Lvl 2: English Strategies
Credit Value: 1  Prerequisite: Completion of 0212
Course Level: Level 2  Course is for Students in Grade(s): 11
Course Fee: None  Course Weight: 1
Course Description: Eleventh grade English will focus on American literature, integrating the development of composition and speech skills. The literature program will include the study of American literary development, and the student will understand how American literature represents what makes us unique as Americans. This course will strengthen the reading and critical thinking skills necessary for understanding and appreciating literary works and develop those writing and speech skills required for the clear and persuasive presentation of ideas. Vocabulary study and an author research project are also part of this class.

0218 Communications (Elective)
Credit Value: 0.5  Prerequisite: None
Course Level: Level 1  Course is for Students in Grade(s): 10-12
Course Fee: None  Course Weight: 1
Course Description: To some, expressing ideas comes naturally; to others, it’s hard work. This course is designed to develop and improve oral communication skills. Areas of emphasis include expressing thoughts and messages clearly in various settings and situations, analyzing the communication, feelings, and behavior of others, developing self-confidence and poise in communicating with others, and understanding both verbal and non-verbal messages.

Throughout the course, students will participate in a variety of activities and discussions, observe and analyze communication, research and interview, write reactions and observations, and share several speeches.

0231 Mythology and Modern Man (Elective)
Credit Value: 0.5  Prerequisite: None
Course Level: Level 1  Course is for Students in Grade(s): 10-12
Course Fee: None  Course Weight: 1
Course Description: This class emphasizes the classical literary foundations of Western culture, focusing on our heritage from the Greek and Roman civilizations. This course, through the use of archetypes, examines the continuing impact of the classical mythologies on life and literature.

General course requirements include the reading and discussion of various selections from the textbooks, and independent supplementary readings. Grading is based upon quiz and test results, various writing assignments, and individual and group presentations.

0233 Creative Writing, Level 1 (Elective)

Credit Value: 0.5  Prerequisite: None
Course Level: Level 1  Course is for Students in Grade(s): 11 and 12
Course Fee: None  Course Weight: 1

Course Description: This class demands a highly motivated and self-directed student. Students will explore, read, discuss, and compose 5 unique pieces of fiction and non-fiction writing that include memoir, short story, poetry, children's picture book, and dramatic script. Class activities include writing strategies, journaling, reading selected works from famous authors, and opportunities for peer editing. Students will be responsible for creating and maintaining their own Writer's Notebook and vocabulary list. In addition, students will focus on the several subgenres within fiction (horror, mystery, science fiction, alternate history), research, and apply the unique concepts to their own work. Students will participate in a Poetry Café and submit works to selected writing competitions (Voice of Democracy, Pegasus) and the school publication Inscription.

0280 Honors 12th Language Arts

Credit Value: 1  Prerequisite: 80% or higher in 0215 or teacher approval
Course Level: Honors  Course is for Students in Grade(s): 12
Course Fee: None  Course Weight: 1 (Class of 2016) or 1.2 (All Other Classes)

Course Description: The emphasis of the course will focus upon a survey of British and world literature. Students will also be required to compose essays, poetry, short pieces of fiction in addition to a formal research paper. There will additional independent reading assignment required throughout the course.

*There will be a summer reading selection.

0281 12th Language Arts, Lvl 1

Credit Value: 1  Prerequisite: 70% or higher in 0214 or teacher approval
Course Level: Level 1  Course is for Students in Grade(s): 12
Course Fee: None  Course Weight: 1

Course Description: The emphasis of the course will focus upon a survey of British and world literature. Students will also be required to compose essays, poetry, short pieces of fiction in addition to a formal research paper. There will additional independent reading assignments required throughout the course.
0282 12th Language Arts, Lvl 2
Credit Value: 1
Prerequisite: Completion of 0216
Course Level: Level 2
Course is for Students in Grade(s): 12
Course Fee: None
Course Weight: 1
Course Description: The emphasis of the course will focus upon a survey of British and world literature. Students will also be required to compose essays, poetry, short pieces of fiction in addition to a formal research paper. There will additional independent reading assignment required throughout the course.

0250 AP English: [AP English Language and Composition/AP English Literature and Composition]
Credit Value: 2
Prerequisite: 11th grade English teacher approval
Course Level: Advanced Placement
Course is for Students in Grade(s): 12
Course Fee: None
Course Weight: 1.4 (Class of 2016) or 1.3 (All Other Classes)
Course Description: Advanced Placement English is a rigorous honors seminar designed for highly talented seniors. The curriculum features classic works of British, American, and world literature which are especially rich in language and thought, including full-length plays and novels, essays and poetry. A required summer reading assignment provides the basis for the initial phase of the course. Class activities encourage independent thinking and critical analysis through intensive discussion and writing. Formal and impromptu writing assignments based on assigned readings are a frequent aspect of student assessment. The course also focuses on the organization, development, and writing of a formal research paper in MLA style.

0299 Literature Keystone Project
Credit Value: 0.5
Prerequisite: District Criteria
Course Level: No Level
Course is for Students in Grade(s): By Appointment
Course Fee: None
Course Weight: 1
Course Description: Students who were not advanced or proficient on the Literature Keystone Exam will be assigned to this course. The course is not an elective and is designed to meet the state of Pennsylvania’s graduation requirements beginning with the Class of 2017.

2100 Academic Language Acquisition, Fall A: ESL 9-12
Credit Value: 1
Prerequisite: Teacher Referral
Course Level: Proficiency Level 1-3
Course is for Students in Grade(s): 9-12
Course Fee: None
Course Weight: 1
Course Description: This course is intended for English as Second Language (ESL) students who are acquiring English Language Proficiency.

Academic Language Acquisition develops the language needed to be successful in content area classes. Content texts will be used to teach essential grammar skills, vocabulary and spelling. Instruction is designed around the six core tenets of literacy, listening, speaking, reading, writing, viewing and representing.

*All non-exited ESL students will attend Academic Language Acquisition for one block each day.
*ESL students will be scheduled for a regular English class in addition to this class.

**2101 Academic Language Acquisition, Spring A: ESL 9-12**

- **Credit Value:** 1  
- **Prerequisite:** Teacher Referral  
- **Course Level:** Proficiency Level 1-3  
- **Course is for Students in Grade(s):** 9-12  
- **Course Fee:** None  
- **Course Weight:** 1  
- **Course Description:** This course is intended for English as Second Language (ESL) students who are acquiring English Language Proficiency.

  Academic Language Acquisition develops the language needed to be successful in content area classes. Content texts will be used to teach essential grammar skills, vocabulary and spelling. Instruction is designed around the six core tenets of literacy, listening, speaking, reading, writing, viewing and representing.

  *All non-exited ESL students will attend Academic Language Acquisition for one block each day.*

  *ESL students will be scheduled for a regular English class in addition to this class.*

**2102 Academic Language Acquisition, Fall B: ESL 9-12**

- **Credit Value:** 1  
- **Prerequisite:** Teacher Referral  
- **Course Level:** Proficiency Level 4-5  
- **Course is for Students in Grade(s):** 9-12  
- **Course Fee:** None  
- **Course Weight:** 1  
- **Course Description:** This course is intended for English as Second Language (ESL) students who are acquiring English Language Proficiency.

  Academic Language Acquisition develops the language needed to be successful in content area classes. Content texts will be used to teach essential grammar skills, vocabulary and spelling. Instruction is designed around the six core tenets of literacy, listening, speaking, reading, writing, viewing and representing.

  *All non-exited ESL students will attend Academic Language Acquisition for one block each day.*

  *ESL students will be scheduled for a regular English class in addition to this class.*

**2103 Academic Language Acquisition, Spring B: ESL 9-12**

- **Credit Value:** 1  
- **Prerequisite:** Teacher Referral  
- **Course Level:** Proficiency Level 4-5  
- **Course is for Students in Grade(s):** 9-12  
- **Course Fee:** None  
- **Course Weight:** 1  
- **Course Description:** This course is intended for English as Second Language (ESL) students who are acquiring English Language Proficiency.

  Academic Language Acquisition develops the language needed to be successful in content area classes. Content texts will be used to teach essential grammar skills, vocabulary and spelling. Instruction is designed around the six core tenets of literacy, listening, speaking, reading, writing, viewing and representing.

  *All non-exited ESL students will attend Academic Language Acquisition for one block each day.*
*ESL students will be scheduled for a regular English class in addition to this class.
Family and Consumer Sciences
Course Listing

F.C.S. Connections
Child Care and Development
Preschool Laboratory
Survival 101
Interior Design

Contemporary Fashion
Foods I
American Cuisine
Cooking Lite & Easy
Personal Financial Management
Family and Consumer Sciences

1132 F.C.S. Connections
Credit Value: 0.5  Prerequisite: None
Course Level: No Level  Course is for Students in Grade(s): 11
Course Fee: None  Course Weight: 1
Course Description: This required course will focus on the development of management skills connected to a healthy personal and family life. Topics will include: consumer rights and responsibilities, personal finances, interpersonal skills, parenting, child development and child literacy. Lectures, guest speakers, projects, and active participation in this course will increase the student's ability to effectively deal with the roles and responsibilities one takes on as an adult. This required course will fill the Academic Standards Requirements of Chapter 4 in Family and Consumer Sciences.

1122 Child Care and Development
Credit Value: 1  Prerequisite: None
Course Level: No Level  Course is for Students in Grade(s): 10-12
Course Fee: None  Course Weight: 1
Course Description: Do you plan to be a parent, teacher, psychologist, nurse or any of the many careers that involves working with children? This course is designed to help you learn about the developing child from prenatal through preschool. You will learn the physical, intellectual, emotional and social development of children and the skills needed to support healthy development in each area. Developmental theorists and brain development research will be reviewed. This one credit course will include six weeks of hands-on preschool lab experience and is a prerequisite to the Preschool Laboratory course.

1124 Preschool Laboratory
Credit Value: 0.5  Prerequisite: 80% or higher in 1122
Course Level: No Level  Course is for Students in Grade(s): 10-12
Course Fee: None  Course Weight: 1
Course Description: Preschool Lab provides the opportunities to plan and coordinate a preschool within the high school's Family and Consumer Sciences Department. This allows in-depth opportunities for high school students to plan, teach, and interact with community children. Special units on literacy, art, dramatic play, math and science are incorporated into planning the hands-on activities for the preschoolers. Observations of the preschoolers in our classroom will be essential to understanding the developing child. A Child Development Associate (CDA) portfolio will be prepared highlighting each of the CDA competencies. This course is strongly recommended for students pursuing a career in early childhood education, elementary education or parenting.
1125 Survival 101

Credit Value: 0.5  Prerequisite: None
Course Level: No Level  Course is for Students in Grade(s): 9 and 10
Course Fee: $10.00  Course Weight: 1
Course Description: This course is an opportunity to practice school to work skills essential to survival as students’ transition to high school and eventually the workplace. Time management, teamwork, collaboration and creativity will be fostered. A project based course that includes opportunities to create a sewing construction project, care of clothing, comparison shopping and managing meals on a budget. Students will participate in a community service project. This is a fundamental FCS course that will explore the various domains of the Family and Consumer Sciences curriculum. This course is not a prerequisite to Foods I or Contemporary Fashion but is highly recommended. The lab fee will cover grocery expenses. Any additional fees will depend on the student's project choices.

1130 Interior Design

Credit Value: 0.5  Prerequisite: None
Course Level: No Level  Course is for Students in Grade(s): 10-12
Course Fee: None  Course Weight: 1
Course Description: This course is for the student that would like to develop interior design skills for the home. Included in the course will be the study of architectural design of homes, furniture styles, furniture arrangement, drawing of house plans, and color and design principles. The use of a computer aided design program will be an integral part of the course. Students will create individual floor plans, furniture arrangements and swatch boards during the course. A field trip to a furniture design center is also incorporated into the curriculum. This is an excellent course for the student interested in a career in interior design or for a student who hopes to create their own unique and pleasing home environment in the future.

1131 Contemporary Fashion

Credit Value: 0.5  Prerequisite: None
Course Level: No Level  Course is for Students in Grade(s): 9-12
Course Fee: $5.00-$20.00  Course Weight: 1
Course Description: This course is designed for the student that would like to develop basic sewing techniques and skills. Students will select projects based on personal needs and tastes. This course is recommended for any student interested in developing personal sewing skills that can be utilized in fashion and home interior designs. Students that have an interest in textiles, fashion design, or interior design as a career will benefit from this course. The fee will depend on the student's project choices.

1114 Foods I

Credit Value: 0.5  Prerequisite: None
Course Level: No Level  Course is for Students in Grade(s): 9-12
Course Fee: $25.00  Course Weight: 1
Course Description: The course is an introduction to food preparation skills and consumer skills. Emphasis is placed on the use of correct equipment, techniques, safety and sanitation in the kitchen. Food preparation techniques will be taught through demonstration and student experiences in the food laboratory. Units of study include the science of baking quick breads, principles of egg cookery, fruits, dairy, and nutrition across the lifespan. This course is a prerequisite to all foods related courses within the FCS Department.

1115 American Cuisine
Credit Value: 0.5  Prerequisite: 70% or higher in 1114
Course Level: No Level  Course is for Students in Grade(s): 10-12
Course Fee: $25.00  Course Weight: 1
Course Description: This is a next level course option which will encourage students to create "Made in America" cuisines. Students will fine-tune cooking skills and food presentation during the foundational units of yeast breads, pasta and rice and the seven regional cuisines of America. The history of food companies and the advancements in food technology will be discussed. Meal planning, appeal, and food purchasing will be evaluated as students complete a final food competition.

1117 Cooking Lite & Easy
Credit Value: 0.5  Prerequisite: 70% or higher in 1114
Course Level: No Level  Course is for Students in Grade(s): 10-12
Course Fee: $25.00  Course Weight: 1
Course Description: Do you have a busy lifestyle? Is it a challenge to prepare healthy foods? This course is designed to teach "lite" and quick cooking techniques through healthy nutrition. Students will prepare snacks and meals as they learn to modify recipes the "lite" way without sacrificing flavor. Discover tips on grocery shopping and how to dine out while eating healthy too. The microwave oven and other time saving kitchen equipment will be used. At the completion of this course, the term "fast food" will take on a whole new meaning.

1112 Personal Financial Management
Credit Value: 0.5  Prerequisite: None
Course Level: No Level  Course is for Students in Grade(s): 9-12
Course Fee: None  Course Weight: 1
Course Description: This elective is designed for all students desiring to manage finances in their future. Students will compare various options for investing and accruing savings, practice the skills of online banking, and maintain a check register and a savings account. Students will practically apply knowledge through simulation of real life financial experiences of budgeting within a given salary. Other topics include debit cards, the use of credit, identity theft and selecting insurance.
<table>
<thead>
<tr>
<th>Vocational Math</th>
<th>Mathematics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocational English</td>
<td>Science</td>
</tr>
<tr>
<td>School-To-Work</td>
<td>Social Studies</td>
</tr>
<tr>
<td>English</td>
<td>English and Mathematics, Full Year</td>
</tr>
</tbody>
</table>
Learning Support

1814 Vocational Math
Credit Value: 1  Prerequisite: IEP
Course Level: Learning Support  Course is for Students in Grade(s): 9-12
Course Fee: None  Course Weight: 1
Course Description: This course is designed to teach and review the fundamentals of basic math, measurement, consumer math, and vocational math (problems related to specific work environments.) Both group and individual instruction will be used to achieve the course objectives and meet individual student goals.

1815 Vocational English
Credit Value: 1  Prerequisite: IEP
Course Level: Learning Support  Course is for Students in Grade(s): 9-12
Course Fee: None  Course Weight: 1
Course Description: This course stresses functional reading skills and practical usage of the English language, which will be taught through a corrective reading program. Students will build vocabulary according to their own vocational interests and will be responsible for written assignments, both research based and creative. There will also be a focus on reading for enjoyment. A review of grammar will be included in this course.

1830 School-To-Work
Credit Value: 1  Prerequisite: IEP
Course Level: Learning Support  Course is for Students in Grade(s): 11 and 12
Course Fee: None  Course Weight: 1
Course Description: The School to Work Class is designed for Junior and Seniors requiring instruction in the following skill areas: travel training, social skills, study skills, practice with disability disclosure, employability skills, utilizing technology in daily activities and accessing supports and resources in the community for medical, leisure, mental, financial and emotional needs. Students will participate in volunteer and paid internships as they move toward graduation and independent living. The students will be working on math, reading and writing activities for functional skills including workplace readiness and independent living.

1918 English
Credit Value: 1  Prerequisite: IEP
Course Level: Learning Support  Course is for Students in Grade(s): 9-12
Course Fee: None  Course Weight: 1
Course Description: Instruction in this class is individualized to the student's needs as identified in the Individualized Education Plan. Activities and content may be remedial in nature and/or may parallel the general education program. In its broadest sense, the course goal is to improve written and verbal language
skills through reading, writing and speaking using one to one and small group instruction. Reading instruction in this course centers around 4 areas: Reading Decoding (phonemic/orthographic awareness), Fluency, Vocabulary, and Reading Comprehension. Writing instruction in this course is based on the Strategic Intervention Model (SIM). The strategies taught include: Fundamentals in the Sentence Writing, Proficiency in the Sentence Writing, Paragraph Writing, and Error Monitoring.

1926 Mathematics
Credit Value: 1  Prerequisite: IEP
Course Level: Learning Support  Course is for Students in Grade(s): 9-12
Course Fee: None  Course Weight: 1
Course Description: Activities and content in this class are determined by the Individualized Education Plan and may be remedial and/or may parallel the general education program.

1930 Science
Credit Value: 1  Prerequisite: IEP
Course Level: Learning Support  Course is for Students in Grade(s): 9-12
Course Fee: None  Course Weight: 1
Course Description: This course is designed to meet all biology standards and eligible content set forth by the Commonwealth of Pennsylvania. The pace of the class will be dictated by individual student needs. The course is designed to provide an overview of the science of biology and the opportunity to experience its many aspects through laboratory exercises and repetition of concepts and skills using resources consisting of lower reading levels when possible. In order to complete all the components assessed by the Keystone Exam, the course may last longer than one semester.

1935 Social Studies
Credit Value: 1  Prerequisite: IEP
Course Level: Learning Support  Course is for Students in Grade(s): 9-12
Course Fee: None  Course Weight: 1
Course Description: Learning Support Social Studies will cover the following Units: Civil War, Western Settlements, The Machine Age, Immigration, Reformers, U.S. Expansionism, World War I, The Roaring 20's, The Great Depression, World War II, The Cold War, Minority and Ethnic Groups, and The War on Terror. Learning Support Social Studies is a survey course designed to give students a broad understanding of important events during the past century.

The course will be taught using a multisensory approach including visual cues, auditory presentations etc. Students will be provided with guided notes and they will have access to textbook and supplemental materials. This course is suited for students with lower reading abilities. Class projects and research projects will be of shorter duration. Alternative assignments and modified tests will be used for student evaluations.
1919/1925 English and Mathematics, Full Year

Credit Value: 2  Prerequisite: IEP
Course Level: Learning Support  Course is for Students in Grade(s): 9-12
Course Fee: None  Course Weight: 1

Course Description: This course is a combination of Learning Support English (1919) and Learning Support Math (1925). The class will meet for the entire school year. Each student will have a full block each day, alternating between English and Math. This course is intended to meet the needs of learning support students who would benefit from an entire year’s worth of instruction in English and Math.
# Mathematics

## Course Listing and Sequence

Please note that students should take sequentially Algebra I, followed by Algebra II, and finally Geometry before taking any additional math courses. It is important to note that more than one math course may be taken in a school year.

<table>
<thead>
<tr>
<th>Level</th>
<th>9th Grade</th>
<th>10th Grade</th>
<th>11th Grade</th>
<th>12th Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Honors Pre-Calculus</td>
<td>Advanced Placement Calculus AB</td>
<td>Advanced Placement Calculus AB</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Advanced Placement Calculus BC</td>
<td>Advanced Placement Calculus BC</td>
</tr>
<tr>
<td>Level 1 Option 1</td>
<td>Algebra I</td>
<td>Informal Algebra II</td>
<td>Algebra II</td>
<td>Informal Geometry</td>
</tr>
<tr>
<td></td>
<td>Geometry</td>
<td>Algebra II</td>
<td>Informal Geometry</td>
<td>Statistics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Geometry</td>
<td>Geometry</td>
<td>Statistics</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pre-Calculus</td>
<td></td>
</tr>
<tr>
<td>Level 1 Option 2</td>
<td>Algebra I, Part 1 and 2</td>
<td>Informal Algebra II</td>
<td>Algebra II</td>
<td>Informal Geometry</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Algebra I, Part 2</td>
<td>Informal Algebra II</td>
<td>Geometry</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Informal Geometry</td>
<td>Geometry</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Pre-Calculus</td>
<td></td>
</tr>
<tr>
<td>Electives</td>
<td>Algebra I Keystone Project</td>
<td>Algebra I Keystone Project</td>
<td>C++</td>
<td>C++</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Java</td>
<td>Java</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Algebra I Keystone Project</td>
<td>Algebra I Keystone Project</td>
</tr>
</tbody>
</table>

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Mathematics Department

0406 Algebra I, Part 1
Credit Value: 1  Prerequisite: District Criteria
Course Level: Level 1  Course is for Students in Grade(s): 9
Course Fee: None  Course Weight: 1
Course Description: This course has the primary objective of developing in the student knowledge of algebraic principles and techniques. It is designed for those students who, at the senior high level, express a need or desire for an introductory academic algebra course. Some important topics are operations and properties of real numbers, solving equations and inequalities, graphing linear functions, exponents, polynomials, factoring, and radicals.

Course Requirements: Frequent homework, quizzes, and tests. A cumulative final exam will be given. A scientific calculator is required, although a graphing calculator is recommended. Students must take part 1 and part 2 during the same school year.

0407 Algebra I, Part 2
Credit Value: 1  Prerequisite: District Criteria
Course Level: Level 1  Course is for Students in Grade(s): 9
Course Fee: None  Course Weight: 1
Course Description: This course has the primary objective of developing in the student knowledge of algebraic principles and techniques. It is designed for those students who, at the senior high level, express a need or desire for an introductory academic algebra course. Some important topics are operations and properties of real numbers, solving equations and inequalities, graphing linear functions, exponents, polynomials, factoring, and radicals.

Course Requirements: Frequent homework, quizzes, and tests. A cumulative final exam will be given. A scientific calculator is required, although a graphing calculator is recommended. Students will take the Keystone Algebra I exam upon successful completion of this course.

0409 Algebra I
Credit Value: 1  Prerequisite: Middle School Criteria
Course Level: Level 1  Course is for Students in Grade(s): 9-12
Course Fee: None  Course Weight: 1
Course Description: This course has the primary objective of developing in the student knowledge of algebraic principles and techniques. It is designed for those students who, at the senior high level, express a need or desire for an introductory academic algebra course. Some important topics are operations and properties of real numbers, solving equations and inequalities, graphing linear functions, exponents, polynomials, factoring, and radicals.
Course Requirements: Frequent homework, quizzes, and tests. A cumulative final exam will be given. A scientific calculator is required, although a graphing calculator is recommended. Students will take the Keystone Algebra I exam upon successful completion of this course.

0415 Algebra II, 10th-12th Grade
Credit Value: 1  
Prerequisite: 70% or higher in 0409
Course Level: Level 1  
Course is for Students in Grade(s): 10-12
Course Fee: None  
Course Weight: 1
Course Description: This course is designed to review and improve proficiency in the basic methods of elementary algebra and to become familiar with many advanced topics. Important topics include solving linear equations and inequalities, exponents, radicals, absolute value, relations and functions, systems of linear equations, operations on and factoring of polynomials, rational expressions, solving of and applications of quadratic equations and complex numbers. The graphing calculator will regularly be used to extend topics into representations that are not easily solved using traditional algebraic methods.

Course Requirements: Daily homework, tests, projects and quizzes. A cumulative final exam will be given. A scientific calculator is required, although a graphing calculator is recommended.

0416 Algebra II, 9th Grade
Credit Value: 1  
Prerequisite: District Criteria
Course Level: Level 1  
Course is for Students in Grade(s): 9
Course Fee: None  
Course Weight: 1
Course Description: This course is designed to review and improve proficiency in the basic methods of elementary algebra and to become familiar with many advanced topics. Important topics include solving linear equations and inequalities, exponents, radicals, absolute value, relations and functions, systems of linear equations, operations on and factoring of polynomials, rational expressions, solving of and applications of quadratic equations and complex numbers. The graphing calculator will regularly be used to extend topics into representations that are not easily solved using traditional algebraic methods.

Course Requirements: Daily homework, tests, projects and quizzes. A cumulative final exam will be given. A scientific calculator is required, although a graphing calculator is recommended.

0422 Informal Algebra II
Credit Value: 1  
Prerequisite: Completion of 0409 and District Criteria
Course Level: Level 1  
Course is for Students in Grade(s): 10-12
Course Fee: None  
Course Weight: 1
Course Description: This course will focus on the first half of the Algebra II curriculum. It will serve as "bridge" between Algebra I and Algebra II for students who experienced significant difficulty in Algebra I. Topics include solving and graphing linear equations, solving systems of equations, solving and graphing quadratic equations, properties of exponents and radicals, and rational functions.
0410 Geometry

**Credit Value:** 1  
**Prerequisite:** Taken 0415 or 0416

**Course Level:** Level 1  
**Course is for Students in Grade(s):** 9-12

**Course Fee:** None  
**Course Weight:** 1

**Course Description:** This course is intended for those preparing for college. It provides the first look at a complete structure of a mathematical system. Some of the important topics covered are: congruence of geometric figures, parallel and perpendicular lines in a plane, similar figures, logic, the Pythagorean Theorem and special right triangles, circles, and coordinate geometry. An emphasis of the course is the techniques used in mathematical proofs. Students following a normal academic sequence beginning Algebra I in grade 8 or 9 should be taking Geometry in grade 10.

**Course Requirements:** Frequent homework, quizzes, and tests. A cumulative final exam will be given.

0411 Honors Geometry

**Credit Value:** 1  
**Prerequisite:** 80% or higher in Honors Algebra II

**Course Level:** Honors  
**Course is for Students in Grade(s):** 9

**Course Fee:** None  
**Course Weight:** 1 (Class of 2016) or 1.2 (All Other Classes)

**Course Description:** This course is designed for mathematically-talented students. Topics will be presented in more depth and at a faster pace than the regular Geometry course. Course content includes those of the regular Geometry course with additional related topics and with an emphasis on the deductive logic of geometric proofs in two- and three-dimensions.

**Course Requirements:** Daily homework assignments, quizzes, and tests. A cumulative final exam will be given. Calculators are required.

0418 Informal Geometry

**Credit Value:** 1  
**Prerequisite:** Taken 0415 or 0422

**Course Level:** Level 1  
**Course is for Students in Grade(s):** 11 and 12

**Course Fee:** None  
**Course Weight:** 1

**Course Description:** The Informal Geometry course includes the key topics covered in geometry. The slower pace and additional practice, however, will foster student understanding of the more important concepts and skills. This course will build on the use of equations begun in Algebra II or Informal Algebra II by writing and solving equations in the context of geometric figures. Topics include basic terminology and geometric figures, angles and angle relationships, parallel and perpendicular lines, triangles and quadrilaterals, the Pythagorean Theorem, congruence and similarity, and area and perimeter of polygons and circles. Though formal proofs will not be emphasized in this course, students will be expected to use correct vocabulary and draw valid conclusions based on their previous mathematical knowledge and the ideas discussed in class. Students will be expected to have a scientific calculator.

**Course Requirements:** Homework and class work assignments are counted heavily in determining the grade a student receives. A cumulative final exam will be given. A scientific calculator is required.
0430 Statistics

Credit Value: 1  Prerequisite: 70% or higher in 0415 or 0416
Course Level: Level 1  Course is for Students in Grade(s): 10-12
Course Fee: None  Course Weight: 1

Course Description: This course is appropriate for all students that have completed Algebra II. Since many students will be required to complete a statistics course in college, this course is strongly recommended by the mathematics department. Course topics include displaying and describing categorical and quantitative data, mean and standard deviation, Normal and Binomial models, linear regression, observational studies and experiments, probability, sampling distributions, and inference about a population. Graphing calculators are required.

Course Requirements: Other requirements are frequent homework assignments, tests, an out-of-school project, and cumulative final exams. Graphing calculators are required.

0424 Advanced Placement Statistics

Credit Value: 1  Prerequisite: 80% or higher in 0452 and teacher approval
Course Level: Advanced Placement  Course is for Students in Grade(s): 10-12
Course Fee: None  Course Weight: 1.4 (Class of 2016) or 1.3 (All Other Classes)

Course Description: The purpose of this course is to prepare students for the Advanced Placement Statistics exam taken in the spring. Both descriptive and inferential statistics will be discussed with an emphasis on the application of concepts and skills in realistic settings. In addition to the use of statistical methods and tools, students will learn to interpret the results of these procedures and their practical implications in specific contexts. Students interested in taking AP Statistics and AP Calculus should plan to take AP Statistics in 11th grade.

Course Requirements: Homework will be assigned daily. Nearly all tests will be designed to model the actual AP exam and will contain both multiple choice and free response items. A graphing calculator is required.

0452 Honors Pre-Calculus

Credit Value: 1  Prerequisite: 0411 and 80% or higher in Honors Algebra II
Course Level: Honors  Course is for Students in Grade(s): 10-12
Course Fee: None  Course Weight: 1 (Class of 2016) or 1.2 (All Other Classes)

Course Description: This course is designed for mathematically-talented students. Topics will be presented in more depth and at a faster pace than the regular pre-calculus course. Building on previously learned functions, the topics include applications of trigonometric and exponential mathematics in a variety of sciences and real-world situations, allowing students access to new methods of solving complicated problems. Graphing calculators are employed to model situations, and patterns are visually examined through their use.

Course Requirements: Daily homework assignments, tests, and quizzes will all be required work. A cumulative final exam will be given. A graphing calculator is required.
0454 Pre-Calculus

Credit Value: 1  
Prerequisite: Taken 0410 & 70% or higher in 0415 or 0416

Course Level: Level 1  
Course is for Students in Grade(s): 10-12

Course Fee: None  
Course Weight: 1

Course Description: The major part of this course is the study of functions, including applications of trigonometry. Pre-calculus develops the foundations required to use mathematics in a variety of sciences and in real-world applications at a deeper level of understanding, allowing students access to new methods of solving complicated problems. Graphing calculators are employed to model situations, and patterns are visually examined through its use.

Course Requirements: Outside homework assignments, projects, periodic quizzes and tests. Graphing calculators are required. A cumulative final exam will be given.

0434 Calculus

Credit Value: 1  
Prerequisite: 80% or higher in 0454

Course Level: Honors  
Course is for Students in Grade(s): 11 and 12

Course Fee: None  
Course Weight: 1

Course Description: This course is specifically designed for college-bound students who have had pre-calculus. The course content is typical of college calculus courses such as differentiation and integration, and their applications in rates of change, optimization, physics and business, and work problems. The focus will be on the development of the type of thinking and skills necessary to understand and solve problems of a more dynamic nature than students have seen in the past.

This course is not designed to prepare students for the Advanced Placement Calculus Test. Students may take either Calculus or Advanced Placement Calculus.

Course Requirements: Periodic quizzes and tests, a cumulative final exam, daily homework. Graphing calculators are required.

0450 Advanced Placement Calculus AB

Credit Value: 1  
Prerequisite: 80% or higher in 0452 and teacher approval

Course Level: Advanced Placement  
Course is for Students in Grade(s): 11 and 12

Course Fee: None  
Course Weight: 1.4 (Class of 2016) or 1.3 (All Other Classes)

Course Description: This course is specifically designed for the mathematically-talented student. The course contains the concepts of a typical freshman college calculus course such as rates of change, optimization, physics and business applications, hydrostatic pressure and work problems. The course is very fast-paced and demanding. Students must do a considerable amount of work outside the classroom. There is a cumulative final exam.

Course Requirements: Periodic tests, midterm and final examination; daily homework. Graphing calculators are required just as they are for the Advance Placement Test.
0451 Advanced Placement Calculus BC

**Credit Value:** 1  
**Prerequisite:** 80% or higher in 0450 and teacher approval  
**Course Level:** Advanced Placement  
**Course is for Students in Grade(s):** 11 and 12  
**Course Fee:** None  
**Course Weight:** 1.4 (Class of 2016) or 1.3 (All Other Classes)

**Course Description:** This course is designed to follow AP Calculus AB for students who wish to continue their study of calculus. Students would enroll in AP Calculus AB and BC in the same school year. Combined, the courses would compose a full year course in AP Calculus. This course is taught at a college level with the end goal of preparedness for the AP Calculus BC exam. AP Calculus BC topics will include applications of derivatives (L'Hopital’s Rule, Euler’s Method), advanced topics related to integrals (integration by substitution, improper integrals), and polynomial approximations and series. Students will analyze functions in parametric, polar and vector forms.

Course Requirements: Periodic tests, daily homework, cumulative final exam. Graphing calculators are required.

0916 C++ (Elective)

**Credit Value:** 0.5  
**Prerequisite:** 70% or higher in 0409 and 0410  
**Course Level:** Level 1  
**Course is for Students in Grade(s):** 11 and 12  
**Course Fee:** None  
**Course Weight:** 1

**Course Description:** C++ will provide the student the opportunity to learn problem-solving skills using the computer and the C++ computer language. Since the Programming I course is a prerequisite of the C++ course, it is assumed that students have a solid programming background. The student will become familiar with capabilities and limitations of computers when creating programs. C++ has become the standard programming language in corporations and small business around the world. It is required that C++ be taken before the Advanced Placement Computer Science course.

Course Requirements: Occasional homework assignments which will not require the use of a computer at home. Grades for this course will be based on a combination of tests and assigned computer programs.

0914 Java Programming (Elective)

**Credit Value:** 0.5  
**Prerequisite:** 70% or higher in 0409 and 0410  
**Course Level:** Level 1  
**Course is for Students in Grade(s):** 11 and 12  
**Course Fee:** None  
**Course Weight:** 1

**Course Description:** This course will introduce students to programming with Java. Students will learn to use Java to write a variety of basic programs which will solve problems related to mathematics, science, business and other areas. Topics will include learning the basic syntax of the Java language, debugging programs, control statements, Java applets, classes, and arrays. Assessment will be largely based on student-produced programs which solve specific problems. Occasional written quizzes and tests will also be used to assess student mastery of Java programming skills.

Course Requirements: Occasional homework assignments which will not require the use of a computer at home. Grades for this course will be based on a combination of tests and assigned computer programs.
0499 Algebra I Keystone Project

Credit Value: 0.5  Prerequisite: District Criteria
Course Level: No Level  Course is for Students in Grade(s): By Appointment
Course Fee: None  Course Weight: 1

Course Description: Students who were not advanced or proficient on the Algebra I Keystone Exam will be assigned to this course. The course is not an elective and is designed to meet the state of Pennsylvania’s graduation requirements beginning with the Class of 2017.
# Music

## Instrumental and Vocal Course Listing

Courses denoted with a * fulfill the Arts and Humanities graduation requirement.

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Number</th>
<th>Prerequisite</th>
<th>Credit</th>
<th>Grade(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Choir</td>
<td>1310</td>
<td>None</td>
<td>1</td>
<td>9-12</td>
</tr>
<tr>
<td>Concert Band</td>
<td>1312</td>
<td>Knowledge of Instrument at a High School Level</td>
<td>1</td>
<td>9-12</td>
</tr>
<tr>
<td>Orchestra</td>
<td>1314</td>
<td>Knowledge of Instrument at a High School Level</td>
<td>1</td>
<td>9-12</td>
</tr>
<tr>
<td>Choir &amp; Band</td>
<td>1360 /1361</td>
<td>Knowledge of Basic Vocal Production and Instrument at a High School Level</td>
<td>1</td>
<td>9-12</td>
</tr>
<tr>
<td>Choir &amp; Orchestra</td>
<td>1370 /1372</td>
<td>Knowledge of Basic Vocal Production and Instrument at a High School Level</td>
<td>1</td>
<td>9-12</td>
</tr>
<tr>
<td>Band &amp; Orchestra</td>
<td>1381/1382</td>
<td>Knowledge of Instrument at a High School Level</td>
<td>1</td>
<td>9-12</td>
</tr>
<tr>
<td>Choir, Band, &amp; Orchestra</td>
<td>1390/1391/1392</td>
<td>Approval from all 3 High School Directors Knowledge of Basic Vocal Production and Instrument at a High School Level</td>
<td>1</td>
<td>9-12</td>
</tr>
<tr>
<td>Chansodié, Semester 2</td>
<td>1321</td>
<td>None</td>
<td>0.5</td>
<td>9-12</td>
</tr>
<tr>
<td>Choir, Semester 2</td>
<td>1323</td>
<td>None</td>
<td>0.5</td>
<td>9-12</td>
</tr>
<tr>
<td>Band, Semester 2</td>
<td>1335</td>
<td>Knowledge of Instrument at a High School Level</td>
<td>0.5</td>
<td>9-12</td>
</tr>
<tr>
<td>Orchestra, Semester 2</td>
<td>1336</td>
<td>Knowledge of Instrument at a High School Level</td>
<td>0.5</td>
<td>9-12</td>
</tr>
<tr>
<td>Band &amp; Chansodié, Semester 2</td>
<td>1337/1338</td>
<td>Knowledge of Basic Vocal Production and Instrument at a High School Level</td>
<td>0.5</td>
<td>9-12</td>
</tr>
<tr>
<td>Orchestra &amp; Chansodié, Semester 2</td>
<td>1339/1340</td>
<td>Knowledge of Basic Vocal Production and Instrument at a High School Level</td>
<td>0.5</td>
<td>9-12</td>
</tr>
<tr>
<td>Band &amp; Orchestra, Semester 2</td>
<td>1341/1342</td>
<td>Knowledge of Instrument at a High School Level</td>
<td>0.5</td>
<td>9-12</td>
</tr>
<tr>
<td>Chansodié, Band, &amp; Orchestra Semester 2</td>
<td>1343/1344/1345</td>
<td>Knowledge of Basic Vocal Production and Instrument at a High School Level</td>
<td>0.5</td>
<td>9-12</td>
</tr>
</tbody>
</table>
## Music
### Additional Course Listing
*Courses denoted with a * fulfill the Arts and Humanities graduation requirement.*

<table>
<thead>
<tr>
<th>Course</th>
<th>Course Number</th>
<th>Prerequisite</th>
<th>Credit</th>
<th>Grade(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Music Theory 1</td>
<td>1320</td>
<td>None</td>
<td>1.0</td>
<td>11-12</td>
</tr>
<tr>
<td>Music Technology*</td>
<td>1330</td>
<td>None</td>
<td>0.5</td>
<td>9-12</td>
</tr>
<tr>
<td>Arts Connections*</td>
<td>1332</td>
<td>None</td>
<td>0.5</td>
<td>9-12</td>
</tr>
<tr>
<td>Musical Theater*</td>
<td>1334</td>
<td>None</td>
<td>0.5</td>
<td>9-12</td>
</tr>
</tbody>
</table>
Music

1310 Choir (Semester 1)
Credit Value: 1.0
Prerequisite: None
Course Level: No Level
Course is for Students in Grade(s): 9-12
Course Fee: None
Course Weight: 1
Course Description: No prerequisite vocal or musical skills are required to enroll in Concert Choir. This course is designed to provide instruction in vocal technique, music reading skills, sight-singing skills, aural skills, and voice care. Students will be achieving course objectives through performance of a wide variety of musical styles.

1312 Concert Band
Credit Value: 1.5
Prerequisite: Knowledge of Instrument at a High School Level
Course Level: No Level
Course is for Students in Grade(s): 9-12
Course Fee: None
Course Weight: 1
Course Description: Concert band is for students who play a woodwind, brass or percussion instrument with an acceptable degree of competency.

Band meets for a full block in the fall semester and a half block in the spring semester.

The band provides performing experiences to enhance ensemble techniques as well as individual playing skills. Three public concerts are held each year (two in the fall and one in the spring). The band also performs at graduation in June.

Students who participate in Concert Band are eligible to audition for County, District, Regional, and State band festivals.

Our band program includes extra-curricular opportunities for performance and musical achievement with the Marching Barons and the Jazz Band.

1314 Orchestra
Credit Value: 1.5
Prerequisite: Knowledge of Instrument at a High School Level
Course Level: No Level
Course is for Students in Grade(s): 9-12
Course Fee: None
Course Weight: 1
Course Description: The orchestra program is for students who play a string instrument at an acceptable level of competency. Students must have a basic knowledge of finger and bowing techniques. Membership for woodwind, brass, and percussion instrumentalists is by audition or teacher recommendation.

Orchestra meets for a full block in the fall semester and a half block in the spring semester.

The orchestra provides performing experiences to enhance ensemble techniques as well as individual playing skills. Three public concerts are held each year (two in the fall and one in the spring). Students who participate in orchestra are eligible to audition for County, District, Regional, and State orchestra festivals.
The Concert Choir meets only in the fall semester and will perform two public concerts during the fall semester.

Students will also have the opportunity to audition for County, District, Regional, and State choir festivals.

1321 Chansodié (Semester 2)

Credit Value: 0.5  Prerequisite: Director Approval
Course Level: No Level  Course is for Students in Grade(s): 9-12
Course Fee: None  Course Weight: 1

Course Description: This vocal group performs music on an advanced high school choir level. Members of the select vocal ensemble called Chansodié must have the director’s approval to take this class. The group is currently an all-female vocal group.

Chansodié meets in the spring semester for half of a block.

Chansodié will be required to perform in the May high school concert. Chansodié may have other opportunities to perform during the semester.

1323 Choir, Semester 2

Credit Value: 0.5  Prerequisite: None
Course Level: No Level  Course is for Students in Grade(s): 9-12
Course Fee: None  Course Weight: 1

Course Description: No prerequisite vocal or musical skills are required to enroll in Concert Choir for the Spring Semester. This course is designed to provide instruction in vocal technique, music reading skills, sight-singing skills, aural skills, and voice care. Students will be achieving course objectives through performance of a wide variety of musical styles.

The Concert Choir for Semester 2 will meet for half of a block.

Concert Choir Semester 2 will perform in the May high school concert.

1320 Music Theory I

Credit Value: 1  Prerequisite: None
Course Level: Level 1  Course is for Students in Grade(s): 10-12
Course Fee: None  Course Weight: 1

Course Description: Theory I is for students who have a serious interest in the study of music fundamentals and a high interest in composing music. Experience with vocal or instrumental performance is a benefit for the student taking this course but is not required. Students will learn the basics of musical notation, music analysis, scale and chord structures and will compose many smaller works in a variety of music styles. Students may be required to complete daily written notation assignments in class or as homework. Learning how to use music writing software programs will also be an essential element of this course.
Arts and Humanities Courses
The courses listed below offer choices within the Music department that would fulfill the Arts and Humanities graduation requirement. The courses offer a way for students to experience the arts in an interdisciplinary setting.

1330 Music Technology
Credit Value: 0.5  Prerequisite: None
Course Level: No Level  Course is for Students in Grade(s): 9-12
Course Fee: None  Course Weight: 1
Course Description: Music Technology is an introductory course that allows students to both musical concepts and their practical application using music technology. Students will use technology to produce MIDI sequences, film scores, loop-based arrangements and compositions, and digital multitrack audio recordings. Students may also have the opportunity to use audio equipment for live recording. (Course fulfills the Arts and Humanities requirement.)

1332 Arts Connections
Credit Value: 0.5  Prerequisite: None
Course Level: No Level  Course is for Students in Grade(s): 9-12
Course Fee: None  Course Weight: 1
Course Description: The arts are an expression of who we are and what we experience. Art, music, theater, literature, and dance share many connections with each other. Arts Connections is a course in which students will explore not only how they as individuals experience all of the arts, but all the ways in which the arts connect to the broader life experiences, and the interdisciplinary connections between the arts and other subjects. (Course fulfills the Arts and Humanities requirement.)

1334 Musical Theater
Credit Value: 0.5  Prerequisite: None
Course Level: No Level  Course is for Students in Grade(s): 9-12
Course Fee: None  Course Weight: 1
Course Description: American musical theater is a complex and unique art form. Through examining the cultural context of musical works, we can also trace the history of American values. Topics covered in this course include: the history of musical theater, the process of creating and producing a musical work, theater vocabulary, critical review of musical theater works. Student will also have the option to perform or produce a musical selection. (Course fulfills the Arts and Humanities requirement.)
## Science Course Listing and Sequence

*Please note this is a suggested sequence of courses and students may choose to take more than one science course in a school year.*

<table>
<thead>
<tr>
<th>Level</th>
<th>9th Grade</th>
<th>10th Grade</th>
<th>11th Grade</th>
<th>12th Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Honors</td>
<td><strong>Suggested Courses:</strong> Environment, Ecology and Engineering and Honors 9th Physical Science</td>
<td><strong>Suggested Course:</strong> Honors Biology I</td>
<td><strong>Suggested Course:</strong> Honors Chemistry</td>
<td><strong>Suggested Course:</strong> Honors Physics</td>
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<td></td>
<td><strong>Elective Courses:</strong> Honors Chemistry, Chemistry I, and Honors Biology II</td>
<td><strong>Suggested Course:</strong> Honors Biology I</td>
<td><strong>Elective Courses:</strong> Honors Chemistry II, Honors Biology II, AP Biology, AP Chemistry, Climatology, AgriEcology, Honors Physics, Physics, AP Environmental Science, and Biology Keystone Project</td>
<td><strong>Elective Courses:</strong> Honors Chemistry II, Honors Biology II, AP Biology, AP Chemistry, Climatology, AgriEcology, AP Environmental Science, and Biology Keystone Project</td>
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<tr>
<td></td>
<td><strong>Elective Course:</strong> Honors Biology I</td>
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<tr>
<td>Level 1</td>
<td><strong>Suggested Courses:</strong> Environment, Ecology and Engineering and 9th Physical Science, Lvl 1</td>
<td><strong>Suggested Course:</strong> Biology I, Lvl 1</td>
<td><strong>Suggested Course:</strong> Chemistry I</td>
<td><strong>Suggested Course:</strong> Physics</td>
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<tr>
<td></td>
<td><strong>Elective Courses:</strong> Chemistry I and Honors Biology II</td>
<td></td>
<td><strong>Elective Courses:</strong> Honors Chemistry II, Honors Biology II, AP Biology, Climatology, AgriEcology, Physics, AP Environmental Science, and Biology Keystone Project</td>
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<tr>
<td></td>
<td><strong>Elective Course:</strong> None</td>
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</tr>
<tr>
<td>Level 2</td>
<td><strong>Suggested Courses:</strong> Environment, Ecology and Engineering and 9th Physical Science, Lvl 2</td>
<td><strong>Suggested Course:</strong> Biology I, Lvl 2 or Keystone Biology I, Part 1 and Part 2</td>
<td><strong>Suggested Course:</strong> Climatology or AgriEcology</td>
<td><strong>Suggested Course:</strong> Climatology or AgriEcology</td>
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<tr>
<td></td>
<td><strong>Elective Course:</strong> None</td>
<td><strong>Elective Course:</strong> None</td>
<td><strong>Elective Courses:</strong> Chemistry I and Biology Keystone Project</td>
<td><strong>Elective Courses:</strong> Chemistry I and Biology Keystone Project</td>
</tr>
</tbody>
</table>

*All college bound students are strongly encouraged to take Chemistry, as many universities require this course for admission.*
Science

0560 Environment, Ecology and Engineering
Credit Value: 0.5
Prerequisite: None
Course Level: No Level
Course Fee: None
Course Weight: 1
Course is for Students in Grade(s): 9
Course Description: This cross curricular Agriculture, Technology Education and Science course will create a student understanding of ecology, the environment and engineering through critical thinking and experiential learning activities. Science and Math concepts will be applied to problem solving involving technology, engineering and agriculture. An agriculture connection to the sustainable use of natural resources will be made through laboratory experiences and research activities. Students will study applied science topics such as biomes, land use, water quality, stewardship, and environmental agencies and will examine their own perceptions of the environment throughout the CASE™ EEE curriculum. Students will apply problem solving and critical thinking skills using CAD software, CNC manufacturing equipment and engineering principles. There will be daily connections made regarding career opportunities in the Ecology, Environment and Engineering fields with a focus on employability skills.

0550 Honors 9th Physical Science
Credit Value: 1
Prerequisite: 84% in Alg II or enrolled in Alg II & 90% in Alg I
Course Level: Honors
Course Fee: None
Course Weight: 1 (Class of 2016) or 1.2 (All Other Classes)
Course is for Students in Grade(s): 9
Course Description: Honors Physical Science is designed for students who have a desire to continue a college or career interest in the science field. It is a rigorous college-preparatory course in the physical sciences that will prepare students for the honors and advanced placement courses offered in the science department. Topics studied include motion and forces, energy, structure of matter, and chemical changes of matter. An emphasis will be placed on the development of complex cognitive processes through labs and activities, and students will be responsible for collecting, analyzing, and reporting data, and will be introduced to writing a formal lab report through firsthand experiences.

0551 9th Physical Science, Lvl 1
Credit Value: 1
Prerequisite: Enrolled in Alg I
Course Level: Level 1
Course Fee: None
Course Weight: 1
Course is for Students in Grade(s): 9
Course Description: Physical Science is a college-prep course to introduce concepts in physics and chemistry. The topics covered will include motion and forces, energy, matter and its changes, and the nature of science. The use of simple algebraic processes and graphical representations in the study of these physical and chemical processes will be required. Students will learn procedures for collecting and analyzing data through laboratory experiences.
**0552 9th Physical Science, Lvl 2**

**Credit Value:** 1

**Prerequisite:** None

**Course Level:** Level 2

**Course is for Students in Grade(s):** 9

**Course Fee:** None

**Course Weight:** 1

**Course Description:** Physical science offers an introduction to the basic concepts of physics and chemistry through laboratory and class activities. Students will learn how to collect and analyze data while studying motion and forces, energy, and structure and changes of matter. Basic mathematics and graphing skills will be applied to analyze data. The topics and skills for this course will be integrated into the overall theme of the nature of science and scientific study.

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**0511 Honors Biology I**

**Credit Value:** 1

**Prerequisite:** 84% or higher in 0550

**Course Level:** Honors

**Course is for Students in Grade(s):** 9 and 10

**Course Fee:** None

**Course Weight:** 1 (Class of 2016) or 1.2 (All Other Classes)

**Course Description:** Honors Biology I is designed to provide an overview of the science of biology and the opportunity to experience its many aspects through laboratory exercises. This course is designed to meet all biology standards and eligible content set forth by the Commonwealth of Pennsylvania. Units of study include; Science of Life, Chemistry of Life, Homeostasis & Transport, Cell Energy, Nucleic Acids & Protein Synthesis, Cell Growth & Division, Continuity of Life, Diversity of Life, and Ecology. Honors students will experience a more in depth study of these content areas, beyond the demands of Level 1 Biology I. This course is intended for those students who have a desire to continue a college or career interest in the science field. Students will take the Biology Keystone Exam at the completion of this course.

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**0510 Biology I, Lvl 1**

**Credit Value:** 1

**Prerequisite:** 70% or higher in 0550 or 0551

**Course Level:** Level 1

**Course is for Students in Grade(s):** 10

**Course Fee:** None

**Course Weight:** 1

**Course Description:** Level 1 Biology I is designed to provide an overview of the science of biology and the opportunity to experience its many aspects through laboratory exercises. This course is designed to meet all biology standards and eligible content set forth by the Commonwealth of Pennsylvania. Units of study include; Science of Life, Chemistry of Life, Homeostasis & Transport, Cell Energy, Nucleic Acids & Protein Synthesis, Cell Growth & Division, Continuity of Life, Diversity of Life, and Ecology. Level I students will experience a more in depth study of these content areas, beyond the depends of Level 2 Biology I. This course is intended for those students who have a desire to attend college. Students will take the Biology Keystone Exam at the completion of this course.

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**0512 Biology I, Lvl 2**

**Credit Value:** 1

**Prerequisite:** None

**Course Level:** Level 2

**Course is for Students in Grade(s):** 10

**Course Fee:** None

**Course Weight:** 1
**Course Description:** Level 2 Biology I is a course designed to provide an overview of the science of biology and the opportunity to experience its many aspects through laboratory exercises. This course is designed to meet all biology standards and eligible content set forth by the Commonwealth of Pennsylvania. Units of study include; Science of Life, Chemistry of Life, Homeostasis & Transport, Cell Energy, Nucleic Acids & Protein Synthesis, Cell Growth & Division, Continuity of Life, Diversity of Life, and Ecology. Students will take the Biology Keystone Exam at the completion of this course.

**0513 Honors Biology II: Anatomy and Physiology (Elective)**

**Credit Value:** 1  
**Prerequisite:** 84% or higher in 0511, or 90% or higher in 0510  
**Course Level:** Honors  
**Course is for Students in Grade(s):** 10-12  
**Course Fee:** $20.00  
**Course Weight:** 1 (Class of 2016) or 1.2 (All Other Classes)

**Course Description:** Honors Biology II - Anatomy & Physiology is designed for all college bound students planning a career in the biological sciences or related fields. Biology II takes an in depth approach to studying anatomy and physiology from cell structure to a survey of the organ systems. Laboratory experiences include a microscopic study of tissues, cat dissection, and observation of preserved specimens, anatomical models, and computer models. Students will have the opportunity to gain specialized laboratory skills by performing advanced laboratory exercises.

**0503 Keystone Biology I, Part 1**

**Credit Value:** 1  
**Prerequisite:** District Criteria  
**Course Level:** Level 2  
**Course is for Students in Grade(s):** 10  
**Course Fee:** None  
**Course Weight:** 1

**Course Description:** This course is designed to meet all biology standards and eligible content set forth by the Commonwealth of Pennsylvania over an entire school year at a pace which allows the students to thoroughly develop an understanding of the material. Keystone Biology I is designed to provide an overview of the science of biology and the opportunity to experience its many aspects through laboratory exercises. Units of study include; Science of Life, Chemistry of Life, Homeostasis & Transport, Cell Energy, Nucleic Acids & Protein Synthesis, Cell Growth & Division, Continuity of Life, Diversity of Life, and Ecology. Students will take part 1 and part 2 during the same school year.

**0504 Keystone Biology I, Part 2**

**Credit Value:** 1  
**Prerequisite:** District Criteria  
**Course Level:** Level 2  
**Course is for Students in Grade(s):** 10  
**Course Fee:** None  
**Course Weight:** 1

**Course Description:** This course is designed to meet all biology standards and eligible content set forth by the Commonwealth of Pennsylvania over an entire school year at a pace which allows the students to thoroughly develop an understanding of the material. Keystone Biology I is designed to provide an overview of the science of biology and the opportunity to experience its many aspects through laboratory exercises. Units of study include; Science of Life, Chemistry of Life, Homeostasis & Transport, Cell Energy, Nucleic Acids & Protein Synthesis, Cell Growth & Division, Continuity of Life, Diversity of Life, and Ecology. Students will earn
one elective science credit for the successful completion of this course. Students will take the Biology Keystone Exam as part of this course.

0515 Advanced Placement Biology (Elective)

Credit Value: 2  
Prerequisite: 90% or higher in 0511 or 94% or higher in 0510  
Course Level: Advanced Placement  
Course is for Students in Grade(s): 11 and 12  
Course Fee: $30.00  
Course Weight: 1.4 (Class of 2016) or 1.3 (All Other Classes)

Course Description: AP Biology is designed to be the equivalent of a college introductory biology course taken by biology majors during their freshman year. After achieving the necessary score on the AP exam most students, as college freshman, may be permitted to undertake upper-level courses in biology or to enroll in a course in which freshman biology is a prerequisite. A main goal of AP Biology are to help students develop a conceptual framework for modern biology and to help students gain and prepare for the National AP Biology Exam if the student choose to take the exam (student will pay for the cost of the exam). In addition, extensive AP Biology labs as directed by AP Biology College Board will be done in class. Additional labs will also include a detailed fetal pig anatomy dissection.

0517 Honors Chemistry

Credit Value: 1  
Prerequisite: 84% in Algebra II and enrolled in Geometry  
Course Level: Honors  
Course is for Students in Grade(s): 10-12  
Course Fee: None  
Course Weight: 1 (Class of 2016) or 1.2 (All Other Classes)

Course Description: The Honors Chemistry course is recommended for students with a strong math background and considering a science, medical or engineering career. Honors Chemistry is a rigorous course which uses the curriculum framework developed by the College Board. The course is a prerequisite to AP Chemistry. Students will be expected to solve complex scientific problems using abstract thinking, previously learned mathematics skills and scientific principles. This course includes the following topics: structure of matter, atomic theory and structure of matter, the periodic table, inorganic nomenclature, stoichiometry, types of chemical reactions, solutions, gas laws, thermochemistry and chemical bonding. A scientific calculator is required for this course.

0514 Chemistry I

Credit Value: 1  
Prerequisite: 70% in Algebra I (0409 Only)  
Course Level: Level 1  
Course is for Students in Grade(s): 10-12  
Course Fee: None  
Course Weight: 1

Course Description: Chemistry I is designed for all students preparing for post-high school education. The curriculum is designed to meet the standards and eligible content as set forth by the Commonwealth of Pennsylvania. The course will require students to apply mathematical concepts and solve problems using abstract thinking. Students will be required to perform laboratory experiments, analyze observed data, perform calculations, write up the results and draw conclusions. Chemistry I includes: study of matter, atomic theory and structure, periodic table and trends, bonding, nomenclature of inorganic compounds, chemical equations and reactions, stoichiometry, gas laws and solutions. A scientific calculator is required for this course.
0524 Honors Chemistry II (Elective)

Credit Value: 1
Course Level: Honors
Course Fee: $20.00
Course Description: This course is a higher level chemistry course, but it is not considered an AP course. The content is similar to the AP Chemistry framework, but the depth and pacing is not at the advanced level required in AP Chemistry. Success in this course is predicated on the foundation gained in the Honors Chemistry or Chemistry I course. Students electing Honors Chemistry II will experience numerous experiments and hands-on activities. The topics in this course include: application of stoichiometry, quantitative chemistry, structure of states of matter, chemical kinetics, chemical equilibrium, acids & bases, electrochemistry, organic chemistry and nuclear chemistry.

0525 Advanced Placement Chemistry (Elective)

Credit Value: 2
Course Level: Advanced Placement
Course Fee: $30.00
Course Description: AP Chemistry is designed to be the equivalent of a college introductory chemistry course taken by chemistry majors during their freshman year. After achieving the necessary score on the AP exam most students, as college freshman, may be permitted to undertake upper-level courses in chemistry or to enroll in a course in which freshman chemistry is a prerequisite. A main goal of AP Chemistry is to help students develop a conceptual framework for modern chemistry and to help students gain and prepare for the National AP Chemistry Exam if the student choose to take the exam (student will pay for the cost of the exam). In addition, extensive AP Chemistry labs as directed by the College Board will be included in this course. The AP Chemistry course follows the College Board framework.

0518 Honors Physics (Elective)

Credit Value: 1
Course Level: Honors
Course Fee: None
Course Description: This course is designed for students planning to pursue a math, science-related or engineering-related field of study. Honors Physics concentrates heavily on conceptual understanding, problem solving and laboratory experiences. Honors Physics provides the mathematically and scientifically oriented students with an opportunity to investigate the following concepts of physics: kinematics, dynamics, energy, momentum, electricity, waves, sound, light, and optics. This course utilizes college physics text. Various projects will be required throughout the class.

0520 Physics (Elective)

Credit Value: 1
Course Level: Level 1
Course Fee: None
Course Description: This course is designed for students planning to pursue a math, science-related or engineering-related field of study. Honors Physics concentrates heavily on conceptual understanding, problem solving and laboratory experiences. Honors Physics provides the mathematically and scientifically oriented students with an opportunity to investigate the following concepts of physics: kinematics, dynamics, energy, momentum, electricity, waves, sound, light, and optics. This course utilizes college physics text. Various projects will be required throughout the class.
**Course Description:** Level 1 Physics is offered for those college preparatory students who are NOT planning to enter a math, science or engineering-related fields but would like to obtain fundamental understanding of following concepts in Physics: changes in speed of an objects, forces that cause motion, energy, momentum, electricity, waves, behavior of sound and light, and optics. Algebra will be used in the solving of problems. The necessary concepts of algebra will be reviewed as part of the course. Laboratory investigations and various projects will help students develop critical thinking and problem solving.

**0521 AP Physics C: Mechanics (Elective)**

| Credit Value: | 1 |
| Prerequisite: | 84% in Pre-calc. and enrolled or taken Calc. |
| Course Level: | Advanced Placement |
| Course Fee: | None |
| Course Weight: | 1.4 (Class of 2016) or 1.3 (All Other Classes) |

**Course Description:** This course will be offered during the fall semester. AP Physics is designed to be the equivalent of a college introductory physics course taken by physics majors during their freshman year. After achieving the necessary score on the AP exam most students, as college freshman, may be permitted to undertake upper-level courses in physics or to enroll in a course in which freshman physics is a prerequisite. A main goal of AP Physics are to help students develop a conceptual framework for physics and to help students gain and prepare for the National AP Physics Exam if the student choose to take the exam (student will pay for the cost of the exam). In addition, extensive AP Physics labs as directed by AP Physics College Board will be done in class.

**0546 Climatology**

| Credit Value: | 1 |
| Prerequisite: | 60% or higher in Physical Science and Biology I |
| Course Level: | No Level |
| Course Fee: | NA |
| Course Weight: | 1 |

**Course Description:** This course offers an overview of Earth’s climate system by describing the major climatological features in the atmosphere and oceans. Fundamentals of oceanography and meteorology will be explored hands-on as students investigate the driving forces behind topics such as ocean currents, tides, weather, cloud formation and types, and earth’s ever-changing climate. Students will also investigate and predict our local weather conditions using Manheim Central’s weather station.

**0562 AgriEcology**

| Credit Value: | 1 |
| Prerequisite: | Biology and suggested 1410 or 1411 |
| Course Level: | No Level |
| Course Fee: | $10.00 |
| Course Weight: | 1 |

**Course Description:** This dual credit Agriculture and Science course will acquaint students with our most important natural resources: Land, Forests, Water & Watersheds, Flora, and Fauna. Students will explore connections between human populations, energy use, and climate change as well. Students will analyze the interdependence and life cycles within an ecosystem. Hands-on labs will include water quality analysis, habitat development, timber stand improvement, soil conservation, and effects of pollution. We have finite natural resources, and stewardship of the environment is a growing career field. Students will work with local wildlife protectors, land managers and government regulators to explore career opportunities.
1425 AP Environmental Science

Credit Value: 1
Prerequisite: 75% or higher in 0510 and 0514
Course Level: Advanced Placement
Course is for Students in Grade(s): 11 and 12
Course Fee: TBD
Course Weight: 1.4 (Class of 2016) or 1.3 (All Other Classes)

Course Description: The AP Environmental Science course is designed to be the equivalent of a one-semester, introductory college course in environmental science. The goal of the AP Environmental Science course is to provide students with the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving or preventing them. Hands on labs and field trips will be conducted throughout the course. There will be daily connections made regarding future career opportunities in the Ecology, Environment and Agriculture fields with a focus on employability skills.

0599 Biology Keystone Project

Credit Value: 0.5
Prerequisite: District Criteria
Course Level: No Level
Course is for Students in Grade(s): By Appointment
Course Fee: None
Course Weight: 1

Course Description: Students who were not advanced or proficient on the Biology Keystone Exam will be assigned to this course. The course is not an elective and is designed to meet the state of Pennsylvania’s graduation requirements beginning with the Class of 2017.
## Social Studies
### Course Listing and Sequence

*Please note this is a suggested sequence of courses and students may choose to take more than one social studies course in a school year.*

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<th>Level</th>
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<th>11th Grade</th>
<th>12th Grade Elective Choices</th>
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<tbody>
<tr>
<td>Honors</td>
<td>Honors American History II</td>
<td>Honors World History II</td>
<td>Honors Economics</td>
<td>Advanced Placement Psychology</td>
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<td>Honors Government</td>
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<tr>
<td>Level 1</td>
<td>American History II, Lvl 1</td>
<td>World History II, Lvl 1</td>
<td>Basic Economics, Lvl 1</td>
<td>Introduction to Psychology</td>
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<td>American Government, Lvl 1</td>
<td>Introduction to Philosophy</td>
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<td>Level 2</td>
<td>American History II, Lvl 2</td>
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<td>American Government, Lvl 2</td>
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<td>No Level</td>
<td>Pennsylvania Studies</td>
<td>Global Perspectives</td>
<td>Global Perspectives</td>
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<td>Electives</td>
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</tbody>
</table>
Social Studies

0601 Honors American History II
Credit Value: 1  
Prerequisite: 84% American History I and District Criteria
Course Level: Honors  
Course is for Students in Grade(s): 9
Course Fee: None  
Course Weight: 1 (Class of 2016) or 1.2 (All Other Classes)

Course Description: Honors American History II is an extension of the American History I course. It will focus on the historical, political, social, and economics trends in the United States.


This honors enriched history class will emphasize as in depth analysis of people, places, and events that brought about major changes in the 20th Century. Students will be involved in essay writing, critiques, as well as creative projects designed to encourage syntheses of course materials. Supplemental materials and research will be used. A summer reading assignment will be required in order to participate in the class.

0602 American History II, Lvl 1
Credit Value: 1  
Prerequisite: None
Course Level: Level 1  
Course is for Students in Grade(s): 9
Course Fee: None  
Course Weight: 1

Course Description: Level I American History II is an extension of the American History I course. It will focus on the historical, political, social, and economic trends in the United States.


Level I history is a survey course with less intensive research and writing requirements. Student evaluations will be based on a variety of short projects, a research paper, short writing assignments, as well as quizzes and multiple choice exams.

0603 American History II, Lvl 2
Credit Value: 1  
Prerequisite: None
Course Level: Level 2  
Course is for Students in Grade(s): 9
Course Fee: None  
Course Weight: 1

Course Description: Level II American History II is an extension of the American History I course. It will focus on the historical, political, social, and economic trends in the United States.

Level II History is a survey course designed to give students a broad understanding of important events during the past century. Less emphasis will be placed on in depth analysis and synthesis of course material. The course will be taught from a textbook and supplemental materials suited for students with lower reading abilities.

0636 Pennsylvania Studies (Elective)

Credit Value: 0.5  
Prerequisite: None
Course Level: No Level  
Course is for Students in Grade(s): 9
Course Fee: None  
Course Weight: 1
Course Description: This course will examine the vital role played by Pennsylvania in the development of the democratic values of the nation. Also, students will be able to understand the geographical and historical significance of Manheim, Lancaster, and Pennsylvania as an influential component of our foundation of the United States. A variety of readings will be completed that introduce students to the role Pennsylvania, Lancaster, and Manheim have played in our country's history.

0609 Honors World History II: From the Renaissance to the Modern World

Credit Value: 1  
Prerequisite: 84% or higher in 0601 or Teacher Approval
Course Level: Honors  
Course is for Students in Grade(s): 10
Course Fee: None  
Course Weight: 1 (Class of 2016) or 1.2 (All Other Classes)
Course Description: This course is designed to introduce students to the history of the world, while analyzing specific historical themes that remain constant across the centuries. These themes would include: 1. The advance of science and technology, 2. Economic and Social Change, 3. Political revolution, 4. The Rise of Nationalism, and 5. The Globalization of The World. Students will come to understand that history is the study of continuous revolution with different changes occurring in different periods and at different rates, but ultimately leading us to the society in which we live today. A summer reading assignment will be required in order to participate in the class.

0610 World History II, Lvl 1: From the Renaissance to the Modern World

Credit Value: 1  
Prerequisite: None
Course Level: Level 1  
Course is for Students in Grade(s): 10
Course Fee: None  
Course Weight: 1
Course Description: This course is designed to introduce students to the history of the world, while analyzing specific historical themes that remain constant across the centuries. These themes would include: 1. The advance of science and technology, 2. Economic and Social Change, 3. Political revolution, 4. The Rise of Nationalism, and 5. The Globalization of The World. Students will come to understand that history is the study of continuous revolution with different changes occurring in different periods and at different rates, but ultimately leading us to the society in which we live today.
0611 World History II, Lvl 2: *From the Renaissance to the Modern World*

**Credit Value:** 1  
**Prerequisite:** None  
**Course Level:** Level 2  
**Course is for Students in Grade(s):** 10  
**Course Fee:** None  
**Course Weight:** 1

**Course Description:** This course is designed to introduce students to the history of the world, while analyzing specific historical themes that remain constant across the centuries. These themes would include: 1. The advance of science and technology, 2. Economic and Social Change, 3. Political revolution, 4. The Rise of Nationalism, and 5. The Globalization of The World. Students will come to understand that history is the study of continuous revolution with different changes occurring in different periods and at different rates, but ultimately leading us to the society in which we live today. No summer reading will be required for this course.

0616 Global Perspectives (Elective)

**Credit Value:** 0.5  
**Prerequisite:** None  
**Course Level:** No Level  
**Course is for Students in Grade(s):** 10 and 11  
**Course Fee:** None  
**Course Weight:** 1

**Course Description:** The goal of Global Perspectives is to introduce students to the cultures of the world, while exploring events impacting our world today. The course is taught thematically which will include topics such as world religions, conflict, and geography. A variety of readings and activities will be used to help students better understand the world in which they live.

0617 Honors Economics

**Credit Value:** 0.5  
**Prerequisite:** 84% or higher in 0609 or Teacher Approval  
**Course Level:** Honors  
**Course is for Students in Grade(s):** 11  
**Course Fee:** None  
**Course Weight:** 1 (Class of 2016) or 1.2 (All Other Classes)

**Course Description:** This course will follow the basic guidelines established under the Junior Achievement Program, but provide a much more in-depth exploration of economic theory and principles. Student assessment will be far more complex and require students to use prior knowledge and relevant skills to solve significant real or authentic problems. Performance tests will require the application of problem-solving skills rather than simple recall. Students will be required to complete a research paper for the course. Honors students will also be required to complete a summer reading assignment in order to participate in the course.

0618 Basic Economics, Lvl 1

**Credit Value:** 0.5  
**Prerequisite:** None  
**Course Level:** Level 1  
**Course is for Students in Grade(s):** 11  
**Course Fee:** None  
**Course Weight:** 1

**Course Description:** This course is designed to give students an understanding of both macro and micro concepts. Students are exposed to economic concepts such as supply and demand, monetary policy and fiscal policy. Students will also examine national and international economic trends and their effects on the economy in general. Level I students will be required to complete a number of small in class simulations, as
well as a short research project. Supplemental reading will also be required and testing will focus on essay evaluations.

0620 Basic Economics, Lvl 2
Credit Value: 0.5  Prerequisite: None
Course Level: Select One  Course is for Students in Grade(s): 11
Course Fee: N/A  Course Weight: 1
Course Description: This is a survey course designed to give students a general understanding of the following topics: labor, production, marketing, finance, business management and the complexities of the Free Enterprise System. Evaluation of the students will be based less on project and written work, and more on objective quizzes and test. However, a degree of written work will be required. Supplemental reading material will be provided and set at an appropriate classroom level.

0650 Adv Placement American Gov
Credit Value: 1  Prerequisite: 10th grade social studies teacher approval
Course Level: Advanced Placement  Course is for Students in Grade(s): 11 and 12
Course Fee: None  Course Weight: 1.4 (Class of 2016) or 1.3 (All Other Classes)
Course Description: Advanced Placement Government is a traditional, college-level survey course in American Government. The course emphasis is on the study of American political ideology and the evolution of its democratic institutions. The students will analyze the political behavior of the American electorate. The students will also study the function of its citizens and their involvement in the local, state and national structures of the American political system. The students will evaluate the role of the national government and its relationship to the concept of liberty in a pluralistic society. The students will discuss the changing political culture of American society and its effect on voting patterns, trends and the processes in government. The inquire method will be used in discussions. A summer reading assignment will be required in order to participate in the class.

0623 Honors American Government
Credit Value: 0.5  Prerequisite: 84% or higher in 0609 or Teacher Approval
Course Level: Honors  Course is for Students in Grade(s): 11
Course Fee: None  Course Weight: 1 (Class of 2016) or 1.2 (All Other Classes)
Course Description: This course in American government is based on the premise that in a democracy it is essential for all citizens to understand the nature of the American political system. The course deals with governmental organizations, powers, and the workings of the government as an integrated whole. The emphasis of the course is on the student as a participating citizen. Students are introduced to the origins and theories that led to checks and balances among the three branches. Students will analyze how the executive, legislative, and judicial branches operate. As citizens in a democracy, all students will be encouraged to become active in the political process by analyzing political parties and elections. Also, national, state, and local government current events issues will be discussed. A summer reading assignment will be required in order to participate in the class.
0622 American Government, Lvl 1
Credit Value: 0.5
Prerequisite: None
Course Level: Level 1
Course is for Students in Grade(s): 11
Course Fee: None
Course Weight: 1
Course Description: This course in American government is based on the premise that in a democracy it is essential for all citizens to understand the nature of the political system. The course deals with governmental organizations, powers, and the workings of the government as an integrated whole. The emphasis of the course is on the student as a participating citizen. Students are introduced to the origins and theories that led to balances and know the executive, legislative, and judicial branches operate. As citizens in a democracy, all students will be encouraged to become active in the political process by analyzing political parties and elections. Also, national, state and local government current events issues will be discussed.

0624 American Government, Lvl 2
Credit Value: 0.5
Prerequisite: None
Course Level: Level 2
Course is for Students in Grade(s): 11
Course Fee: None
Course Weight: 1
Course Description: This course in American government is based on the premise that in a democracy it is essential for all citizens to understand the nature of the political system. The course deals with governmental organizations, powers, and the workings of the government as an integrated whole. The emphasis of the course is on the student as a participating citizen. Students are introduced to the origins and theories that led to balances and know the executive, legislative, and judicial branches operate. As citizens in a democracy, all students will be encouraged to become active in the political process by analyzing political parties and elections. Also, national, state and local government current events issues will be discussed.

0629 Introduction To Psychology (Elective)
Credit Value: 0.5
Prerequisite: None
Course Level: Level 1
Course is for Students in Grade(s): 12
Course Fee: None
Course Weight: 1
Course Description: This course introduces students to the three main areas of psychiatric exploration in an attempt to build better understanding of human behavior. Students will be introduced to the role their own brains play in influencing their behavior through the use of the internet and various other in-class activities. Students will also be exposed to the great psychologists of history ranging from Sigmund Freud and Carl Jung to Ivan Pavlov and B.F. Skinner. Through these great thinkers, students will be better able to explore their own personalities, while also examining the influence of environment upon their behaviors. To conclude the class, students will explore a wide range of abnormal behaviors including multiple personality and schizophrenia in an attempt to demonstrate the wide range of problems psychiatrists and psychologists must be prepared to deal with.
0631 Advanced Placement Psychology (Elective)

Credit Value: 1  
Prerequisite: 11th grade social studies teacher approval  
Course Level: Advanced Placement  
Course is for Students in Grade(s): 12  
Course Fee: None  
Course Weight: 1.4 (Class of 2016) or 1.3 (All Other Classes)  

Course Description: This course is designed to prepare students to take the AP Psychology Test in order to receive college credit and benefit their academic career. It is offered to students interested in going into Psychology or a Psychology related field. Due to its accelerated pace and extensive curriculum, the course should only be taken by a serious academic student. It is also recommended that students taking this class take a course on statistics and biology at some time in their high school career.

0633 Introduction To Philosophy (Elective)

Credit Value: 0.5  
Prerequisite: None  
Course Level: Level 1  
Course is for Students in Grade(s): 11 and 12  
Course Fee: None  
Course Weight: 1  

Course Description: This course is designed to introduce students to the discipline of philosophy along with some of the classical, foundational philosophical areas. Students will examine some of the different approaches philosophers have taken in engaging a variety of theoretical questions. We will study questions arising in the following areas: metaphysics, the self, philosophy of religion and the existence of God, ethics and logic.

0634 American Law and Justice (Elective)

Credit Value: 0.5  
Prerequisite: None  
Course Level: No Level  
Course is for Students in Grade(s): 12  
Course Fee: None  
Course Weight: 1  

Course Description: American Law and Justice is designed to introduce students to some of the most controversial legal issues in today's society. Some topics discussed in class will include the limits upon free speech, the effectiveness of gun control, the legitimacy of capital punishment, and the use of the insanity defense. Students will briefly explore Constitutional Law before being introduced to Criminal Law. A wide range of crimes will be discussed ranging from homicide to various property crimes. The Criminal Justice Process will be explored in some detail, as students prepare for and play roles in their own mock trial. Finally, a brief examination of the US prison system will analyze the role punishment plays within our society.
## Technology Education and Engineering Course Listing

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*Project Lead the Way (PLTW): PLTW Pathway to Engineering Program is a high school engineering curriculum designed to help prepare students with an interest in STEM for their post high school experience. The PLTW Pathway to Engineering Program is a curriculum that is designed to encompass all four years of high school. Foundation courses are supplemented by a number of electives to create rigorous, relevant, reality-based courses. Activities are hands-on and project-based. Students learn how to use industry-leading 3D design software that’s used by companies like Intel, Lockheed Martin and Pixar. The Technology Education and Engineering Department is currently offering Introduction to Engineering Design and Principles of Engineering two foundation courses and Civil Engineering and Architecture and Aerospace Engineering two specialized courses in the PLTW content area which will pave the way for students to earn college credits upon completion of the course work.*
Technology Education & Engineering

0560 Environment, Ecology and Engineering

Credit Value: 0.5
Prerequisite: None
Course Level: No Level
Course is for Students in Grade(s): 9
Course Fee: None
Course Weight: 1

Course Description: This cross curricular Agriculture, Technology Education and Science course will create a student understanding of ecology, the environment and engineering through critical thinking and experiential learning activities. Science and Math concepts will be applied to problem solving involving technology, engineering and agriculture. An agriculture connection to the sustainable use of natural resources will be made through laboratory experiences and research activities. Students will study applied science topics such as biomes, land use, water quality, stewardship, and environmental agencies and will examine their own perceptions of the environment throughout the CASE™ EEE curriculum. Students will apply problem solving and critical thinking skills using CAD software, CNC manufacturing equipment and engineering principles. There will be daily connections made regarding career opportunities in the Ecology, Environment and Engineering fields with a focus on employability skills.

1209 Digital Design / Print Media

Credit Value: 0.5
Prerequisite: None
Course Level: No Level
Course is for Students in Grade(s): 9-12
Course Fee: $10.00
Course Weight: 1

Course Description: Communication technologies play a vital role in our world. This course enables students to understand and successfully use a wide range of these technologies. Digital imaging, digital photography, commercial printing processes, computer-based communications, telecommunication technologies and others are included. Through cooperative group projects and individual assignments, students will learn about the capabilities, limitations and safe use of the equipment and processes of communication technology. Success will involve effective planning, decision-making and problem solving.

1232 Intro To Electronic Media

Credit Value: 0.5
Prerequisite: None
Course Level: No Level
Course is for Students in Grade(s): 9-12
Course Fee: $5.00
Course Weight: 1

Course Description: Introduction to Electronic Media will expose students to a variety of production software/equipment used in the development of multimedia projects. Students will learn several electronic media communication tools to create audio soundtracks, computer animations, video productions, and DVD portfolios. Students will be responsible for writing scripts, preparing, scheduling, recording, and editing several projects. Activities may include Stop Motion animation, Multimedia presentations, TV commercials, public service announcements and other student design projects.
Students must pass this course prior to taking for Broadcasting & Electronic Journalism or Film & Electronic Media.

1238 Broadcast & Electronic Journ.
Credit Value: 1  Prerequisite: Completion of 1232
Course Level: No Level  Course is for Students in Grade(s): 10-12
Course Fee: $10.00  Course Weight: 1
Course Description: Broadcasting & Electronic Journalism will further enhance the student’s electronic media experience by combining the skills taught in the Intro to Electronic Media course with advanced editing and broadcasting skills. Students in this class will produce the daily morning announcement show that is aired to the school. Projects include creating news packages, graphics for broadcast, and student designed projects. Students will create a DVD portfolio of their course work. Broadcasting & Electronic Journalism is designed for students with a strong interest in journalism and television production. Time will be required outside of class to complete assignments.

1239 Film and Electronic Media
Credit Value: 1  Prerequisite: Completion of 1232
Course Level: No Level  Course is for Students in Grade(s): 10-12
Course Fee: $10.00  Course Weight: 1
Course Description: The Film & Electronic Media course will build upon the skills gained in Intro to Electronic Media course. This course places an increased emphasis on advanced camera work and editing/special effects techniques. Students will learn how to create motion graphics and video composites using professional level applications. Students will be required to plan, produce, and edit large-scale projects. A DVD portfolio will be created to showcase their projects completed as part of the course. The Film & Electronic Media course is designed for students with a career interest in television or film production. Time will be required outside of class to complete projects.

0920 Web Design
Credit Value: 0.5  Prerequisite: None
Course Level: No Level  Course is for Students in Grade(s): 10-12
Course Fee: None  Course Weight: 1
Course Description: This course is designed to familiarize students with the creation and management of web sites. Students will learn basic html structure, CSS formatting, and web site creation using Adobe Dreamweaver. Students will also learn how to create text and graphics for the web using Adobe Photoshop. Students will be required to write several pages of content for their custom web site.

1217 Digital Photography
Credit Value: 0.5  Prerequisite: None
Course Level: No Level  Course is for Students in Grade(s): 9-12
Course Fee: None  Course Weight: 1
Course Description: Digital photography is a valuable course for individuals with an interest in photography. Students explore advanced digital SLR camera techniques, Photoshop editing, and special effects. While in this course, Students will learn to manually control the camera by manipulating the aperture and the shutter speed.

In addition, Students will acquire techniques to improve photographs using tools in Photoshop and learn how to process photos for presentations using various media.

Taking photographs outside of the school day is required to successfully complete this course.

1220 Transportation Systems
Credit Value: 0.5  Prerequisite: None
Course Level: No Level  Course is for Students in Grade(s): 9-12
Course Fee: $15.00  Course Weight: 1
Course Description: Transportation Systems will include the study of Land, Water and Aviation/Aerospace Transportation technology. Group and individual projects will include problem solving activities, construction and testing of transportation vehicles and analysis of systems present and future. Students will gain experience on a flight simulator and use a wind tunnel for testing aerodynamic efficiency of scaled vehicles. A culminating project will be the design and construction of a Hovercraft vehicle to be powered by an electric leaf blower. Mass transportation systems, alternative fuel vehicles, along with economic and environmental impacts of transportation technology will be studied.

1214 CAD Fundamentals: Computer-Aided Design
Credit Value: 0.5  Prerequisite: Completion of 0560
Course Level: No Level  Course is for Students in Grade(s): 10-12
Course Fee: $3.00  Course Weight: 1
Course Description: CAD Fundamentals is an introductory course in drafting and design techniques and current software. Course content will emphasize mechanical drawing, design, problem solving and Computer Aided Drafting (CAD). The course will cover topics in sketching, orthographic projection, dimensioning, section views, CAD and problem solving. Students will use AutoCAD software for 2D drawing work and Autodesk Inventor software for 3D Solid Modeling work in order to produce quality, professional looking drawing.

1216 Architectural Drawing & Design
Credit Value: 0.5  Prerequisite: Completion of 0560
Course Level: No Level  Course is for Students in Grade(s): 10-12
Course Fee: None  Course Weight: 1
Course Description: Topics that will be studied in this course include architectural styles, basic house designs, construction materials and techniques, construction costs and financing, room planning, energy conservation, floor plans, exterior elevation views and Computer Aided Drafting (CAD).
1218 Energy, Power & Control

Credit Value: 0.5
Prerequisite: None
Course Level: No Level
Course is for Students in Grade(s): 9-12
Course Fee: $10.00
Course Weight: 1

Course Description: Students will gain valuable insight into solar, wind, and geothermal, the technologies that provide our energy, power the equipment and devices with which we live and work, and control the operation of many technical systems. Students will learn about electrical theory including safety, resistance, current and voltage. Series and parallel circuits will be identified and tested for understanding. Students will use testing equipment to troubleshoot and trace electrical flow in a circuit.

Individual and cooperative group activities will enable students to discover how to use energy power and control technologies responsibly and productively.

Additional cost may be incurred depending on the student’s selection of projects.

1221 Materials and Production Tech

Credit Value: 0.5
Prerequisite: None
Course Level: No Level
Course is for Students in Grade(s): 9-12
Course Fee: $20.00
Course Weight: 1

Course Description: Materials and Production Technology will combine introductory woodworking, metalworking and plastics technology. Student activities will emphasize learning through the practical use of tools and processes of manufacturing and construction systems. The development of design, planning and problem solving skills will be stressed. In addition, students will gain a basic understanding of CNC Machining (computer controlled machining) along with the safe use of tools, machines and finishing processes. Success in this course will involve proper utilization of class time, good planning and producing quality projects. Students will be taking home four projects from this course.

1223 Materials and Production Tech II

Credit Value: 1
Prerequisite: Completion of 1221
Course Level: No Level
Course is for Students in Grade(s): 10-12
Course Fee: Varies upon project selection
Course Weight: 1

Course Description: This course is offered to students who have an interest in exploring woodworking and applying CNC Machining processes as they work toward the design and completion of advanced projects. Students will design, compute cost analysis, uses tools and machines and apply a quality finish to their project. Success in this course will involve proper utilization of class time and good planning to produce a quality finished project. Students taking this course will be able to produce woodworking projects at a fraction of the retail cost using modern CNC technology. Students will be required to pay for materials used for their projects while cost will vary due to the size and type of materials.
1227 Manufacturing and CNC Tech: Computer Numerical Control

Credit Value: 1  Prerequisite: Completion of 1221
Course Level: No Level  Course is for Students in Grade(s): 10-12
Course Fee: Varies upon project selection  Course Weight: 1

Course Description: This course will allow students an in-depth study of CAD and CNC machining to discover how this technology can be applied to materials and processes used in manufacturing and construction. Students will have the opportunity to design and create projects using a CNC Lathe, Milling Machine and Router while using materials such as wood, metal, plastics and composites. Students will design and build a smaller introductory project using CNC technology in a manufacturing setting. This course will conclude with students completing a final project utilizing the CNC technology. Success in this course will demand proper utilization of class time and good planning to produce a quality project. Students will be required to pay for materials used for their projects.

1250 PLTW-Introduction To Engineering Design (IED) (Foundation Course)

Credit Value: 1  Prerequisite: Algebra I
Course Level: Dual Enrollment  Course is for Students in Grade(s): 9-12
Course Fee: $5.00  Course Weight: 1.4 (Class of 2016) or 1.2 (All Other Classes)

Course Description: This is the first foundation course in the sequence of PLTW courses. In this course, students use 3D solid modeling design software to help them design solutions to solve proposed problems. Students will learn how to document their work and communicate solutions to peers and members of the professional community. The major focus of the IED course is to expose students to the design process, research and analysis, teamwork, communication methods, global and human impacts, engineering standards, and technical documentation. Students will learn how to communicate through sketching, multi-view drawings, pictorials and extensively use AutoDesk Inventor software to allow them to produce high quality 3D models and drawings. This course is a particularly good choice for students interested in pursuing a career in engineering.

1255 PLTW-Principles of Engineering (POE) (Foundation Course)

Credit Value: 1  Prerequisite: Algebra I
Course Level: Dual Enrollment  Course is for Students in Grade(s): 9-12
Course Fee: $5.00  Course Weight: 1.4 (Class of 2016) or 1.2 (All Other Classes)

Course Description: This survey course of engineering is a PLTW foundation course and exposes students to some of the major concepts they’ll encounter in a postsecondary engineering course of study. Students have an opportunity to investigate engineering and high-tech careers and to develop skills and understanding of course concepts. Students employ engineering and scientific concepts in the solution of engineering design problems. They develop problem-solving skills and apply their knowledge of research and design to create solutions to various challenges. Students also learn how to document their work and communicate their solutions to peers and members of the professional community.
### 1260 PLTW-Civil Engineering and Architecture (CEA)

- **Credit Value:** 1
- **Prerequisite:** 1250 or 1255
- **Course Level:** Dual Enrollment
- **Course is for Students in Grade(s):** 10-12
- **Course Fee:** $5.00
- **Course Weight:** 1.4 (Class of 2016) or 1.2 (All Other Classes)

**Course Description:** Students learn about various aspects of civil engineering and architecture and apply their knowledge to the design and development of residential and commercial properties and structures. In addition, students use 3D design software to design and document solutions for major course projects. Students communicate and present solutions to their peers and members of a professional community of engineers and architects.

### 1265 PLTW-Aerospace Engineering (AE)

- **Credit Value:** 1
- **Prerequisite:** 1250 or 1255
- **Course Level:** Dual Enrollment
- **Course is for Students in Grade(s):** 10-12
- **Course Fee:** $5.00
- **Course Weight:** 1.4 (Class of 2016) or 1.2 (All Other Classes)

**Course Description:** AE explores the evolution of flight, navigation and control, flight fundamentals, aerospace materials, propulsion, space travel, and orbital mechanics. In addition, this course presents alternative applications for aerospace engineering concepts. Students analyze, design, and build aerospace systems. They apply knowledge gained throughout the course in a final presentation about the future of the industry and their professional goals.
## Wellness and Fitness
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Wellness and Fitness

0324 Intro to Physical Education
Credit Value: 0.5
Prerequisite: None
Course Level: No Level
Course is for Students in Grade(s): 9
Course Fee: None
Course Weight: 1

Course Description: This course will include a variety of team, individual and lifetime sport activities. The course will blend strenuous physical activity and physical fitness with recreational sport games. Units may include racquet games, ball games, and lifetime leisure activities, as well as fitness testing. There is a bowling fieldtrip during class that will cost $11.00 for 2 days of bowling.

0328 Advanced Weight Training, Fall
Credit Value: 1
Prerequisite: Teacher Approval
Course Level: No Level
Course is for Students in Grade(s): 10-12
Course Fee: None
Course Weight: 1

Course Description: This course is intended to further enhance the student-athletes knowledge and participation of weight training and conditioning. The course will be a specifically designed program to help train our student-athletes and improve their overall fitness level. We will explore the different methods of training, training techniques, methods of assessment, and goal setting.

0329 Advanced Weight Training, Spring
Credit Value: 1
Prerequisite: Teacher Approval
Course Level: No Level
Course is for Students in Grade(s): 10-12
Course Fee: None
Course Weight: 1

Course Description: This course is intended to further enhance the student-athletes knowledge and participation of weight training and conditioning. The course will be a specifically designed program to help train our student-athletes and improve their overall fitness level. We will explore the different methods of training, training techniques, methods of assessment, and goal setting.

0330 Ball Games: Team Aerobic Games
Credit Value: 0.5
Prerequisite: Completion of 0324
Course Level: No Level
Course is for Students in Grade(s): 10-12
Course Fee: None
Course Weight: 1

Course Description: This course is designed for any students interested in an intense game environment. Course activities include a wide range of large group, team based games. Activities may include (but are not limited to) flag football, speedball, floor hockey, basketball, softball, team handball and fitness training. There is a bowling fieldtrip during class that will cost $11.00 for 2 days of bowling.
0332 Early-Bird Physical Education

Credit Value: 0.5  
Prerequisite: Completion of 0324  
Course Level: No Level  
Course is for Students in Grade(s): 10-12  
Course Fee: None  
Course Weight: 1  
Course Description: This course will introduce the basic fundamentals of weight training and conditioning. We will explore the different methods of training, practice techniques of all exercise, will learn how to assess our fitness levels, evaluate and develop individual plans based on personal goals.

0342 Individual/Dual Activities

Credit Value: 0.5  
Prerequisite: Completion of 0324  
Course Level: No Level  
Course is for Students in Grade(s): 10-12  
Course Fee: None  
Course Weight: 1  
Course Description: This course will provide students with the opportunity to learn and participate in various recreational activities. Activities may include archery, golf, badminton, bocce, bowling, horseshoes, tennis, disc golf, pickle ball and speedminton. Students will improve their skills throughout each unit in order to encourage a lifestyle of activity and recreational involvement. There is a bowling fieldtrip during class that will cost $11.00 for 2 days of bowling.

0336 Outdoor Education

Credit Value: 0.5  
Prerequisite: Completion of 0324  
Course Level: No Level  
Course is for Students in Grade(s): 10-12  
Course Fee: None  
Course Weight: 1  
Course Description: We will explore different outdoor activities, practice techniques, and learn to assess our environmental surroundings. The course will also provide guided practices of communication, leadership, problem solving and teamwork. Activities may include orienteering, group initiatives, low ropes elements, geocaching, disc golf, horseshoes, bocce ball and archery. There is also a field trip to Gretna Glen’s ropes course, this field trip may include but is not limited to: High-ropes course elements, low-ropes course elements, team building, adventure races and transportation fees. Costs will be approximately $25 - $35.

0344 Personal Fitness

Credit Value: 0.5  
Prerequisite: Completion of 0324  
Course Level: No Level  
Course is for Students in Grade(s): 10-12  
Course Fee: None  
Course Weight: 1  
Course Description: Introduce the basic fundamentals of weight training and conditioning. We will explore the different methods of training, practice techniques of all exercise, learn to assess our fitness levels, evaluate and develop individual plans based on personal goals.
0345 Personal Fitness, Music

Credit Value: 0.5  
Prerequisite: For Students Enrolled in Semester 2 Music
Course Level: No Level  
Course is for Students in Grade(s): 9-12
Course Fee: None  
Course Weight: 1
Course Description: Introduce the basic fundamentals of weight training and conditioning. We will explore the different methods of training, practice techniques of all exercise, learn to assess our fitness levels, evaluate and develop individual plans based on personal goals. This course is for students who are enrolled in music during the second semester.

0341 Wellness: A Guide To Fitness

Credit Value: 0.5  
Prerequisite: Nurse or HPE Teacher Approval
Course Level: No Level  
Course is for Students in Grade(s): 9-12
Course Fee: None  
Course Weight: 1
Course Description: To develop a program that would address the individual’s lifestyle choices involving nutrition and physical activity. This class has a primary focus on developing and maintaining healthy lifestyle habits and weight management. There is also bowling fieldtrip during class that will cost $11.00 for 2 days of bowling.

0320 Physical Education by Contract

Credit Value: 0.5  
Prerequisite: CTC Student
Course Level: Select One  
Course is for Students in Grade(s): 10-12
Course Fee: None  
Course Weight: 1
Course Description: Physical Education by Contract is designed for full day CTC students to fulfill the Physical Education requirements for graduation. A variety of approved activities must be done outside the home and school. Students must also complete and submit a weekly contract to the appropriate Physical Education teacher at Manheim Central.

0310 Health Education

Credit Value: 0.5  
Prerequisite: None
Course Level: No Level  
Course is for Students in Grade(s): 10
Course Fee: None  
Course Weight: 1
Course Description: Health Education provides an opportunity to study and evaluate current health issues. The primary goal of this course is for each student to become health literate. Topics of study include: physical fitness and wellness; diseases and disorders as they relate to the body systems; human sexuality and related diseases; drug and chemical abuse; and current safety issues. Health Education is a required course for graduation.
0311 Intro to Sports Medicine

Credit Value: 0.5  Prerequisite: Must have taken 0310
Course Level: Level 1  Course is for Students in Grade(s): 11 and 12
Course Fee: $5.00  Course Weight: 1

Course Description: This course will provide students with an introduction to the field of Athletic Training. Topics will include basic anatomy and physiology; the injury process; wound care techniques; injury rehabilitation; nutrition and hydration; emergency response and care; risk management; taping and splinting techniques; and injury prevention. There is a $5.00 course fee for taping lab supplies. Additional fieldtrip and associated transportation fees may apply.

* Field trips may be taken at various times throughout the courses. Costs will vary according to the trip. Approximate cost will range from $5.00-$25.00 NOT including bus fees.
## World Languages

### Course Listing

<table>
<thead>
<tr>
<th>German I</th>
<th>Spanish IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>German II</td>
<td>AP Spanish</td>
</tr>
<tr>
<td>German III</td>
<td>French I</td>
</tr>
<tr>
<td>German IV</td>
<td>French II</td>
</tr>
<tr>
<td>Spanish I</td>
<td>French III</td>
</tr>
<tr>
<td>Spanish II</td>
<td>French IV</td>
</tr>
<tr>
<td>Spanish III</td>
<td></td>
</tr>
</tbody>
</table>
World Languages

1018 German I
Credit Value: 1
Prerequisite: MS World Language or HS English Teacher Approval
Course Level: Level 1
Course is for Students in Grade(s): 9-12
Course Fee: None
Course Weight: 1
Course Description: It is recommended that students who elect this course have good English skills and read at least at grade level. A palatable experience is offered to motivated students who desire a taste of the German-speaking domain. German I is an introduction to the vast Germanic world of language and culture. Vocabulary, conversational dialogues, language patterns, and culture connections are included in course work. Use of multi-media resources brings the German atmosphere to the classroom. Access is available to Internet activities that correlate with authentic realia and the German world. Listening, speaking, reading and writing are approached relative to the communicative mode of current National Standards. Various videos capture the cultures of Germany, Austria, Switzerland and Liechtenstein.

1020 German II
Credit Value: 1
Prerequisite: 75% or higher in 1018 or Teacher Approval
Course Level: Level 1
Course is for Students in Grade(s): 10-12
Course Fee: None
Course Weight: 1
Course Description: Students who have successfully completed German I are encouraged to pursue National World Language Standards. Further mastery of the Standards will be developed through interpersonal, interpretive and presentational communication. This course offers an appropriate sequence in culture and skills through reading, listening, speaking and writing. Multi-media resources will be utilized within the program.

1022 German III
Credit Value: 1
Prerequisite: 80% or higher in 1020 or Teacher Approval
Course Level: Level 1 (Class of 2016)
Honors (All Other Classes)
Course is for Students in Grade(s): 10-12
Course Fee: None
Course Weight: 1 (Class of 2016) or 1.2 (All Other Classes)
Course Description: This course reflects a continuation of the National Standards pursued in levels I & II with concentration on acquiring communicative skills, use of technology, interpersonal skills, and teamwork. Varied dialogues, readings, group projects, and compositions stimulate students to look beyond the classroom into real life situations. More advanced skills in oral and written expressions, vocabulary, and language structure are presented. Audio-visual materials bring the culture and language alive in the classroom. Students will study helpful travel phrases, and German-speaking countries.
1024 German IV
Credit Value: 1
Prerequisite: 80% or higher 1022 or Teacher Approval
Course Level: Level 1 (Class of 2016)
Course is for Students in Grade(s): 11 and 12
Honors (All Other Classes)
Course Fee: None
Course Weight: 1 (Class of 2016) or 1.2 (All Other Classes)
Course Description: German IV continues to develop readiness skills, critical technical creative problem solving with the ability to work cooperatively in the world community. This program inter-relates culture, grammar, and vocabulary in a communicative manner allowing students use authentic German. German IV continues to aid in the development of oral and written expression as well as listening and reading comprehension skills. New material is introduced and students perfect skills through a program of inter-related stories. A German reader may be utilized to combine learning more German language within the culture. This course is for students who need to develop a command of German for college or to enhance careers in business, trade, travel, medicine, communications, law and engineering.

1026 Spanish I
Credit Value: 1
Prerequisite: MS World Language or HS English Teacher Approval
Course Level: Level 1
Course is for Students in Grade(s): 9-12
Course Fee: None
Course Weight: 1
Course Description: It is recommended that students who elect this course have good English skills and read at least at grade level. A palatable experience is offered to motivated students who desire a taste of the Spanish-speaking domain. Spanish I is an introduction to the vast Hispanic world of language and culture. Vocabulary, conversational dialogues, language patterns, and culture connections are included in course work. Use of multi-media resources brings the Spanish atmosphere to the classroom. Access is available to Internet activities that correlate with authentic realia and the Hispanic world. Listening, speaking, reading and writing are approached relative to the communicative mode of current National Standards.

1028 Spanish II
Credit Value: 1
Prerequisite: 75% or higher in 1026 or Teacher Approval
Course Level: Level 1
Course is for Students in Grade(s): 10-12
Course Fee: None
Course Weight: 1
Course Description: Students who have successfully completed Spanish I are encouraged to pursue National World Language Standards. Further mastery of the Standards will be developed through interpersonal, interpretive and presentational communication. This course offers an appropriate sequence in culture and skills through reading, listening, speaking and writing. Multi-media resources will be utilized within the program.
1030 Spanish III

Credit Value: 1
Prerequisite: 80% or higher in 1028 or Teacher Approval
Course Level: Level 1 (Class of 2016) Honors (All Other Classes)
Course is for Students in Grade(s): 10-12
Course Fee: None
Course Weight: 1 (Class of 2016) or 1.2 (All Other Classes)

Course Description: This course reflects a continuation of the National Standards pursued in levels I & II with concentration on acquiring communicative skills, use of technology, interpersonal skills, and teamwork. Varied dialogues, readings, group projects, and compositions stimulate students to look beyond the classroom into real life situations. More advanced skills in oral and written expressions, vocabulary, and language structure are presented. Audio-visual materials bring the culture and language alive in the classroom. Students will study helpful travel phrases, and some Spanish-speaking countries.

1032 Spanish IV

Credit Value: 1
Prerequisite: 80% or higher in 1030 or Teacher Approval
Course Level: Level 1 (Class of 2016) Honors (All Other Classes)
Course is for Students in Grade(s): 11 and 12
Course Fee: None
Course Weight: 1 (Class of 2016) or 1.2 (All Other Classes)

Course Description: Spanish IV continues to develop readiness skills, critical technical creative problem solving with the ability to work cooperatively in the world community. This program interrelates culture, grammar, and vocabulary in a communicative manner allowing students use authentic Spanish. Spanish IV continues to aid in the development of oral and written expression as well as listening and reading comprehension skills. New material is introduced and students perfect skills through a program of interrelated stories. This course is for students who need to develop a command of Spanish for college or to enhance careers in business, trade, travel, medicine, communications, law and social work. Spanish IV is the beginning of AP Spanish.

1034 AP Spanish

Credit Value: 1
Prerequisite: Teacher Approval
Course Level: Advanced Placement
Course is for Students in Grade(s): 12
Course Fee: None
Course Weight: 1.4 (Class of 2016) or 1.3 (All Other Classes)

Course Description: The AP Spanish Language course (continuation of Spanish IV) is a specialized class designed for those students seeking college credit via the AP Spanish language exam intensifying the communicative skills. Students will continue to explore the literature and culture of the Hispanic world through a variety of authentic materials including: film, drama, poetry, and group projects, with explicit and implicit emphasis on grammar, conversation, writing, and selected readings from the modern period of Spain and the Americas. AP Spanish Language continues to aid in the development of oral and written expression as well as listening and reading comprehension skills. Through a plethora of presentations, essays, and speaking activities students will learn to more freely respond in Spanish.
1010 French I

Credit Value: 1

Prerequisite: MS World Language or HS English Teacher Approval

Course Level: Level 1

Course is for Students in Grade(s): 9-12

Course Fee: None

Course Weight: 1

Course Description: It is recommended that students who elect this course have good English skills and read at least at grade level. A palatable experience is offered to motivated students who desire a taste of the French-speaking domain. French I is an introduction to the vast Francophone world of language and culture. Vocabulary, conversational dialogues, language patterns, and culture connections are included in course work. Use of multi-media resources brings the French atmosphere to the classroom. Access is available to Internet activities that correlate with authentic realia and the Francophone world. Listening, speaking, reading and writing are approached relative to the communicative mode of current National Standards.

1012 French II

Credit Value: 1

Prerequisite: 75% or higher in 1010 or Teacher Approval

Course Level: Level 1

Course is for Students in Grade(s): 10-12

Course Fee: None

Course Weight: 1

Course Description: Course Description: Students who have successfully completed French I are encouraged to pursue National World Language Standards. Further mastery of the Standards will be developed through interpersonal, interpretive and presentational communication. This course offers an appropriate sequence in culture and skills through reading, listening, speaking and writing. Multi-media resources will be utilized within the program.

1014 French III

Credit Value: 1

Prerequisite: 80% or higher in 1012 or Teacher Approval

Course Level: Level 1 (Class of 2016)

Honors (All Other Classes)

Course is for Students in Grade(s): 10-12

Course Fee: None

Course Weight: 1 (Class of 2016) or 1.2 (All Other Classes)

Course Description: This course reflects a continuation of the National Standards pursued in levels I & II with concentration on acquiring communicative skills, use of technology, interpersonal skills, and teamwork. Varied dialogues, readings, group projects, and compositions stimulate students to look beyond the classroom into real life situations. More advanced skills in oral and written expressions, vocabulary, and language structure are presented. Audio-visual materials bring the culture and language alive in the classroom. Students will study helpful travel phrases, and some French-speaking countries.

1016 French IV

Credit Value: 1

Prerequisite: 80% or higher in 1014 or Teacher Approval

Course Level: Level 1 (Class of 2016)

Honors (All Other Classes)

Course is for Students in Grade(s): 11 and 12

Course Fee: None

Course Weight: 1 (Class of 2016) or 1.2 (All Other Classes)
Course Description: French IV continues to develop readiness skills, critical technical creative problem
solving with the ability to work cooperatively in the world community. This program interrelates culture,
grammar, and vocabulary in a communicative manner allowing students use authentic French. French IV
continues to aid in the development of oral and written expression as well as listening and reading
comprehension skills. New material is introduced and students perfect skills through a program of inter-
related stories. A French reader may be utilized to combine learning more French language within the culture.
This course is highly recommended for students who need to develop a command of French for college or to
enhance careers in the arts, international business or politics, trade, travel, communications, and law.
An Introduction

Lancaster County’s 16 school districts have adopted a common career preparation program called Career Pathways, which is based on the PA State Academic Standards for Career Education and Work. These standards identify the necessary academics and technical requirements for careers of the 21st Century. The Career Pathways model is designed to help students and parents plan for careers using four main categories of careers/jobs called “Pathways,” which are based on national employment trends. These trends are often referred to as “career clusters.”

The goal of Career Pathways is for all students to develop a vital and meaningful education and career plan beyond High School graduation and to have a seamless transition to college and career success. This plan may include work based training, skill certification, military, associate’s, bachelor’s or graduate degree.

What are Career Pathways®

Think of the icons below as 4 different roads. Each one will bring you a variety of career possibilities that relate to that particular category. By choosing a specific Pathway below, you can take advantage of all the opportunities that best fit your interests, abilities and experiences. This decision not only accelerates the process of developing your career path, but it also prepares you for any number of jobs within that specific Pathway. And remember: If you don’t like the Pathway you have chosen, you can change it!

How do I use them?

Finding the right career can be as simple as this 3 STEP PROCESS below:

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Career Awareness</strong>&lt;br&gt; <em>Who am I? What are my interests?</em>&lt;br&gt; Decide on a Career Pathway® that best matches your interests, skills and abilities and further explore the industries within that Pathway.</td>
<td><strong>Career Exploration</strong>&lt;br&gt; <em>What Career Pathways® relate to my interests?</em>&lt;br&gt; Take every opportunity to learn more about different kinds of careers.</td>
<td><strong>Career Preparation</strong>&lt;br&gt; <em>What are my training and educational options?</em>&lt;br&gt; Pursue the necessary training you’ll need for the career you want. This may include college, military, technology center or work-based training.</td>
</tr>
</tbody>
</table>
Pathway Overview

Careers in this Pathway are related to the visual and performing arts and design, journalism and broadcasting, audio and video technology, printing technology, telecommunications.

PA Dept. of Education Career Clusters:
Arts, Audio-Visual Technology Communications

The US. Department of Education has designated 16 clusters of careers that form the basis for Career Pathway systems in Pennsylvania. Each cluster represents a group of related industries and occupations in the American economy.

what you’ll need

<table>
<thead>
<tr>
<th>interests</th>
<th>skills</th>
<th>experiences</th>
</tr>
</thead>
<tbody>
<tr>
<td>English language fine arts</td>
<td>idea generation writing</td>
<td>art/music/dance writing influencing others</td>
</tr>
<tr>
<td>communications &amp; media</td>
<td>originality/creativity</td>
<td>acting/entertaining others</td>
</tr>
<tr>
<td>computer &amp; electronics</td>
<td>influencing others speech clarity</td>
<td>directing/conducting design/fashion</td>
</tr>
<tr>
<td>music</td>
<td>working independently deductive reasoning</td>
<td>broadcasting/public speaking computers/graphic technology</td>
</tr>
<tr>
<td>social sciences foreign languages</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

where you’ll go

<table>
<thead>
<tr>
<th>entry level</th>
<th>skilled/technical</th>
<th>professional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acting Career</td>
<td>Artist in Residence</td>
<td>Art Historian</td>
</tr>
<tr>
<td>Public opinion researcher</td>
<td>Music and Marketing</td>
<td>Economics</td>
</tr>
<tr>
<td>Videographer</td>
<td>Fabric/Textile Designer</td>
<td>Graphic Designers</td>
</tr>
<tr>
<td>Desktop Publisher</td>
<td>Photographer</td>
<td>Web Designer</td>
</tr>
<tr>
<td>Mechanical Drafts person</td>
<td>Printing Technology</td>
<td>Writer</td>
</tr>
<tr>
<td>Camera Operators: TV, Video</td>
<td>*Barber</td>
<td>Prepress Technician</td>
</tr>
<tr>
<td>Retail Salesperson</td>
<td>Advertising Sales Agents</td>
<td>Industrial Packaging Designer</td>
</tr>
<tr>
<td>Press Operators</td>
<td>Interpreters &amp; Translators</td>
<td>Studio Musician</td>
</tr>
</tbody>
</table>

* Represents a 2013 High Priority Occupation for Lancaster County Workforce Investment Area.
Pathway Overview

Careers in this Pathway are related to the business environment and include entrepreneurial careers, sales, marketing, computer and information systems, finance, accounting, human resources, economics, and business management.

PA Dept. of Education Career Clusters:

Business, Management & Administration;
Finance; Information Technology; Marketing, Sales and Service

The US. Department of Education has designated 16 clusters of careers that form the basis for Career Pathway systems in Pennsylvania. Each cluster represents a group of related industries and occupations in the American economy.

<table>
<thead>
<tr>
<th>interests</th>
<th>skills</th>
<th>experiences</th>
</tr>
</thead>
<tbody>
<tr>
<td>business environment</td>
<td>influence others</td>
<td>communicate effectively</td>
</tr>
<tr>
<td>office management</td>
<td>electronic information</td>
<td>organize a project</td>
</tr>
<tr>
<td>computers &amp; technology</td>
<td>manage people &amp; projects</td>
<td>working with technology</td>
</tr>
<tr>
<td>buying &amp; merchandising</td>
<td>give speeches &amp; presentations</td>
<td>investing</td>
</tr>
<tr>
<td>record keeping</td>
<td>debate ideas</td>
<td>e-commerce &amp; sales</td>
</tr>
<tr>
<td>owning your own business</td>
<td>explain electronic operations</td>
<td>owning a business</td>
</tr>
<tr>
<td>sales/persuading others</td>
<td>generate computer designs</td>
<td>presentations to a group</td>
</tr>
<tr>
<td>designing systems</td>
<td>keep records</td>
<td>buying &amp; merchandising</td>
</tr>
<tr>
<td>leadership and authority</td>
<td>collect &amp; manage data</td>
<td>hospitality &amp; tourism</td>
</tr>
<tr>
<td>Making a profit</td>
<td>use computers &amp; technology</td>
<td>work with the public</td>
</tr>
</tbody>
</table>

where you’ll go

<table>
<thead>
<tr>
<th>entry level</th>
<th>skilled/technical</th>
<th>professional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advertising Sales Agents</td>
<td>Accounting clerk</td>
<td>Accountant/Controller</td>
</tr>
<tr>
<td>*Accounts Payable/Receivable</td>
<td>Administrative Assistant</td>
<td>Actuary</td>
</tr>
<tr>
<td>*Claims Adjusters</td>
<td>Buyer</td>
<td>Chief Executive Officer</td>
</tr>
<tr>
<td>Auto Sales</td>
<td>Corporate Trainer</td>
<td>Auditor</td>
</tr>
<tr>
<td>Bank Clerk/Teller</td>
<td>Entrepreneur</td>
<td>Consultant</td>
</tr>
<tr>
<td>Entrepreneur</td>
<td>Marketing researcher</td>
<td>Economist</td>
</tr>
<tr>
<td>Management Trainee</td>
<td>Merchandising Manager</td>
<td>Entrepreneur</td>
</tr>
<tr>
<td>Military supply</td>
<td>Purchasing Manager</td>
<td>Financial Planner</td>
</tr>
<tr>
<td>*Payroll Clerk</td>
<td>*Real Estate Agent</td>
<td>*Sales Manager</td>
</tr>
<tr>
<td>Receptionist</td>
<td>Tax Planner</td>
<td>Operations Manager</td>
</tr>
<tr>
<td>*Truck Drivers</td>
<td>Wholesale Sales</td>
<td>Stockbroker</td>
</tr>
<tr>
<td>Retail Sales</td>
<td>*Sales Representatives</td>
<td>Underwriter</td>
</tr>
</tbody>
</table>

* Represents a 2013 High Priority Occupation for Lancaster County Workforce Investment Area.
Pathway Overview

Careers in this Pathway are related to the technologies necessary to design, develop, install and maintain physical systems; agriculture, the environment and natural resources; scientific research and development services; and planning, management, and movement of people, materials and goods from one point to another.

PA Dept. of Education Career Clusters:
Agriculture, Food & Natural Resources;
Architecture & Construction; Manufacturing; Science, Technology, Engineering & Mathematics; Transportation, Distribution and Logistics

The US. Department of Education has designated 16 clusters of careers that form the basis for Career Pathway systems in Pennsylvania. Each cluster represents a group of related industries and occupations in the American economy.

<table>
<thead>
<tr>
<th>interests</th>
<th>skills</th>
<th>experiences</th>
</tr>
</thead>
<tbody>
<tr>
<td>applied math</td>
<td>design &amp; create products</td>
<td>computer &amp; electronics</td>
</tr>
<tr>
<td>building with your hands</td>
<td>design/repair engines</td>
<td>operating vehicles</td>
</tr>
<tr>
<td>working on a team</td>
<td>improve things to work better</td>
<td>building &amp; construction</td>
</tr>
<tr>
<td>working in a laboratory setting</td>
<td>think in a logical sequence</td>
<td>farming</td>
</tr>
<tr>
<td>working with electronics</td>
<td>visualize three dimensionally</td>
<td>mechanical design</td>
</tr>
<tr>
<td>operating machinery &amp; tools</td>
<td>design buildings</td>
<td>model building</td>
</tr>
<tr>
<td>designing models &amp; prototypes</td>
<td>follow a schematic design</td>
<td>problem solving</td>
</tr>
<tr>
<td>geography</td>
<td>follow instructions precisely</td>
<td>assemble &amp; repair items</td>
</tr>
<tr>
<td>producing tangible result</td>
<td></td>
<td>working outdoors</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>entry level</th>
<th>skilled/technical</th>
<th>professional</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apprenticeship Body Repair</td>
<td></td>
<td>Aerospace</td>
</tr>
<tr>
<td>*Machinist</td>
<td></td>
<td>Agriculture Sciences</td>
</tr>
<tr>
<td>Automotive Detailer</td>
<td></td>
<td>Agronomy</td>
</tr>
<tr>
<td>*Construction Laborer</td>
<td></td>
<td>Animal Science</td>
</tr>
<tr>
<td>Highway Maintenance</td>
<td></td>
<td>Environmental Engineering</td>
</tr>
<tr>
<td>Packer/Packager</td>
<td></td>
<td>*Civil Engineering</td>
</tr>
<tr>
<td>*Painter</td>
<td></td>
<td>Horticulture</td>
</tr>
<tr>
<td>Rail Worker</td>
<td></td>
<td>*Industrial Engineering</td>
</tr>
<tr>
<td>Repair Technician</td>
<td></td>
<td>Mathematics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Physics</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Biochemists and Biophysicists</td>
</tr>
</tbody>
</table>

* Represents a 2013 High Priority Occupation for Lancaster County Workforce Investment Area.
Pathway Overview

Careers in this Pathway are related to the promotion of health and treatment of disease and disorders; economic, political, and social systems; and teaching and training children and adults the information and skills needed to ensure a productive career and life.

PA Dept. of Education Career Clusters:

*Education & Training; Health Science; Hospitality & Tourism; Human Services, Law, Public Safety & Security; Government & Public Administration*

The US Department of Education has designated 16 clusters of careers that form the basis for Career Pathway systems in Pennsylvania. Each cluster represents a group of related industries and occupations in the American economy.

what you’ll need

<table>
<thead>
<tr>
<th>interests</th>
<th>skills</th>
<th>experiences</th>
</tr>
</thead>
<tbody>
<tr>
<td>caring for people or animals</td>
<td>oral expression</td>
<td>volunteer work</td>
</tr>
<tr>
<td>science and medicine</td>
<td>active listening</td>
<td>manage finances</td>
</tr>
<tr>
<td>helping others</td>
<td>speech clarity</td>
<td>prioritize obligations</td>
</tr>
<tr>
<td>observing &amp; recording facts</td>
<td>leadership</td>
<td>pay attention to details</td>
</tr>
<tr>
<td>researching information</td>
<td>social perceptiveness</td>
<td>remain fair and just</td>
</tr>
<tr>
<td>working on a team</td>
<td>fluency of ideas</td>
<td>relate to different people</td>
</tr>
<tr>
<td>family and Social Services</td>
<td>inductive &amp; deductive reasoning</td>
<td>make learning fun for others</td>
</tr>
<tr>
<td>teaching others</td>
<td>manual dexterity</td>
<td>cut &amp; style hair</td>
</tr>
<tr>
<td>law</td>
<td>follow instructions precisely</td>
<td>organize travel plans</td>
</tr>
<tr>
<td></td>
<td>analyze collected data</td>
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</table>

where you’ll go

<table>
<thead>
<tr>
<th>entry level</th>
<th>skilled/technical</th>
<th>professional</th>
</tr>
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<tbody>
<tr>
<td>*Health Care Support Workers</td>
<td>*Biotechnology</td>
<td>*Secondary Education</td>
</tr>
<tr>
<td>Camp Counselor</td>
<td>*Cardiovascular Technology</td>
<td>Hospitality/Management</td>
</tr>
<tr>
<td>Custodian</td>
<td>Child Development</td>
<td>*Medical Technologist</td>
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<tr>
<td>Food Service Worker</td>
<td>Culinary Arts</td>
<td>Pre-Medicine</td>
</tr>
<tr>
<td>*Medical Transcriptionist</td>
<td>*Dental Hygiene</td>
<td>Pre-Dentistry</td>
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<tr>
<td>Library Aide</td>
<td>Medical Assisting</td>
<td>Pre-Pharmacy</td>
</tr>
<tr>
<td>Model</td>
<td>*Medical Laboratory Technician</td>
<td>*Registered Nursing</td>
</tr>
<tr>
<td>Public Radio Dispatcher</td>
<td>*Veterinary Technologists</td>
<td>Social Work</td>
</tr>
<tr>
<td>Security Guard</td>
<td>*Child Care Worker</td>
<td>Public Relations</td>
</tr>
<tr>
<td>Teacher Aide</td>
<td>Surgical Technology</td>
<td>Lawyer</td>
</tr>
<tr>
<td></td>
<td>Legal Secretary</td>
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</tr>
</tbody>
</table>

* Represents a 2013 High Priority Occupation for Lancaster County Workforce Investment Area.
Check out the top 40 jobs in Lancaster County

Career awareness and exploration include an understanding of changing job markets. Although you may not choose a high priority occupation, labor market data is an important part of career planning as you decide where to invest your time, effort, and money. Perhaps your interests, skills and experiences will lead you to one of the 40 hot jobs in Lancaster County.

(List compiled by the Workforce Investment Board of Lancaster County.)

**Students interested in Arts & Communication will find many avenues for their talents and interests in the workplace. Although there are currently no “hot jobs” in Lancaster County in this Pathway, the job market is always changing. Students interested in the arts may discover that their skills are valuable and applicable to careers in other Pathways. Students should never let job market trends be their only consideration when choosing a career!**

**List of 40 Jobs**

- Sales representatives, wholesale and manufacturing, except technical and scientific products
- Accountants and auditors
- Executive secretaries and administrative assistants
- Bookkeeping, accounting, and auditing clerks
- Secretaries, except legal, medical, and executive
- Sales representatives, wholesale and manufacturing, technical and scientific products
- Computer support specialists
- Truck drivers, heavy and tractor-trailer

**Students interested in Business & Finance will find many avenues for their talents and interests in the workplace.**

- Carpenters
- Printing machine operators
- Industrial machinery mechanics
- Packaging and filling machine operators and tenders
- Machinists
- Welders, cutters, solderers, and brazers
- Brickmasons and blockmasons
- Sheet metal workers
- Molding, coremaking, and casting machine setters, operators, and tenders, metal and plastic
- Industrial engineers
- Operating engineers and other construction equipment operators
- Painters, construction and maintenance
- Bus and truck mechanics and diesel engine specialists
- Team assemblers
- Industrial truck and tractor operators
- Truck drivers, light or delivery services
- Electricians
- Maintenance and repair workers, general
- First-line supervisors/managers of production and operating workers
- Plumbers, pipefitters, and steamfitters
- Heating, air conditioning, and refrigeration mechanics and installers

**Students interested in Engineering, Science & Technology will find many avenues for their talents and interests in the workplace.**

- Registered nurses
- Elementary school teachers, except special education
- Police and sheriff's patrol officers
- Dental assistants
- Physical therapists
- Pharmacists
- Medical and clinical laboratory technicians
- Licensed practical and licensed vocational nurses
- Food batchmakers
- Medical records and health information technicians
- Radiologic technologists and technicians

**Students interested in Health & Social Services will find many avenues for their talents and interests in the workplace.**
Career Cruising is an Internet-based career exploration and planning tool used by your son or daughter to explore career and college options and develop a career plan. Career Cruising can be accessed from school, from home, or wherever your son or daughter has access to the Internet. Features of the program include:

- **Interest and Skills Assessment** - a world-renowned career assessment tool to help people identify suitable career options based on their interests and skills.

- **Career Profiles** - thorough and up-to-date information about hundreds of different occupations, including direct links between careers and related college programs.

- **Multimedia Interviews** - interviews with real people in each occupation, which add depth and realism to career profiles.

- **College and Financial Aid Information** - comprehensive college and financial aid information, with a number of useful search tools to help students find the right college and the right scholarships.

- **Electronic Career Portfolio** - available online, so students can develop their education and career plans from wherever they access Career Cruising.

- **Resume Builder** - integrated with the portfolio to help students format and print professional-looking resumes quickly and easily.

To find out more about Career Cruising, we encourage you to login using the school’s access information:

- **Login at:** www.careercruising.com
- **Enter your school’s username:**
- **Enter your school’s password:**
- **Click on “Start Career Cruising” to begin**
The Carl D. Perkins Career and Technical Education Act of 2006 requires the development and implementation of career and technical Programs of Study (POS). The Lancaster County Career & Technology Center, under the Act, is now required to offer the relevant academic and technical courses as they relate to the POS. Programs of Study are very similar to, and build on, positive initiatives, such as Tech Prep, career pathways, career academies and career clusters, already underway in career and technical education in Pennsylvania.

Beginning with the class of 2013 priority admissions considerations will be in place for LCCTC programs. These considerations will include submission of an LCCTC application within the designated time period and the student's successful completion of POS secondary academic courses. These academic courses include:

- 4 Years of College Prep English (4th yr at LCCTC);
- 3 years of College Prep math including Algebra I, Geometry, Algebra II and a higher level math;
- 3 years of science including Biology, Chemistry and Physics or Physical Science; and
- 3 years of social studies including US and World History, with attention given to civic learning.

**“programs of study” secondary scope and sequence**

<table>
<thead>
<tr>
<th>Grade 9</th>
<th>Grade 10</th>
<th>Grade 11</th>
<th>Grade 12</th>
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</thead>
<tbody>
<tr>
<td><strong>Elective(s)</strong></td>
<td><strong>Elective(s)</strong></td>
<td><strong>Elective(s)</strong></td>
<td><strong>LCCTC Full Day Program</strong></td>
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<tr>
<td>Communications Tech I</td>
<td>Accounting</td>
<td>Accounting II</td>
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<tr>
<td>Public Speaking</td>
<td>Creative Writing</td>
<td>Communications Tech, Indep. Study</td>
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<td>Foreign Language Level I</td>
<td>History of American Film</td>
<td>Anatomy and Physiology</td>
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<tr>
<td></td>
<td>Communications Tech II</td>
<td>Foreign Language Level 3/4</td>
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<tr>
<td></td>
<td>Foreign Language Level 2</td>
<td>Events, Issue, People in the News</td>
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<td>The Right to Remain Silent</td>
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<tr>
<td>English</td>
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<td>English 10 College Prep or English 10 Tech Prep</td>
<td>English 11 College Prep or English 11 Tech Prep</td>
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<tr>
<td>Math</td>
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<td><strong>LCCTC Post-Secondary</strong></td>
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<tr>
<td>Algebra I College Prep or</td>
<td>Discovering Geometry College Prep or</td>
<td>Algebra II or</td>
<td><strong>Public Speaking</strong></td>
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<tr>
<td>Advanced Algebra I or</td>
<td>Biology College Prep with Lab or</td>
<td>Algebra C College Prep or</td>
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<td>Algebra A Tech Prep or</td>
<td>Biology Tech Prep with Lab</td>
<td>Geometry College Prep or</td>
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</tr>
<tr>
<td>Algebra B Tech Prep or</td>
<td></td>
<td>Advanced Geometry</td>
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<tr>
<td>Algebra A College Prep or</td>
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<td><strong>Required</strong></td>
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<tr>
<td>Algebra B College Prep</td>
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<tr>
<td>Science</td>
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<td><strong>HACC Dual Enrollment</strong></td>
</tr>
<tr>
<td>General Science College Prep or</td>
<td>Biology College Prep with Lab or</td>
<td>Chemistry College Prep or</td>
<td><strong>BIO 105 Medical Term</strong></td>
</tr>
<tr>
<td>General Science Tech Prep</td>
<td>Biology Tech Prep with Lab</td>
<td>Applied Chemistry or</td>
<td><strong>AH 140 Intro to Allied Health</strong></td>
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<td></td>
<td>Applied Physics or</td>
<td><strong>4 Cr.</strong></td>
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<tr>
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<td>General Physics or</td>
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<td>Physics College Prep</td>
<td><strong>BIO 175 Anatomy &amp; Phys I</strong></td>
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<td><strong>3 Cr.</strong></td>
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<td>Social Studies</td>
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<tr>
<td>American Cultures College Prep or</td>
<td>American Cultures II College Prep or</td>
<td>World Cultures College Prep or</td>
<td><strong>HACC Dual Enrollment</strong></td>
</tr>
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<td>American Cultures Tech Prep</td>
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<td><strong>PSY 101 General Psychology</strong></td>
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<td>Politics/Economics College Prep or</td>
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<td>Politics/Economics Tech Prep</td>
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</tbody>
</table>

- Career Pathways
- Electronic Career Portfolio
- Job Shadowing related to student’s pathway
- Career & Work Standards

- Career Pathways
- Electronic Career Portfolio
- Job Shadowing related to student’s pathway
- Career & Work Standards

- Industry Credentials
- Career & Work Standards
- Co-Op/Clinical
- CTC Portfolio
- Articulation to Post-secondary
- HACC College in the High School Courses
### Senior Programs - Grade 12

<table>
<thead>
<tr>
<th>Brownstown Campus</th>
<th>Mount Joy Campus</th>
<th>Willow Street Campus</th>
</tr>
</thead>
</table>
| Construction Technologies Center  
Architectural CAD / Design  
Cabinetmaking & Wood Technology  
Electrical Construction Technology  
Heavy Equipment Operations & Basic Maintenance  
HVAC/R  
Masonry  
Painting / Ceramic Tile & Vinyl  
Plumbing | Advanced Manufacturing Center  
Electro-Mechanical Engineering Technology  
Sheet Metal Technology  
Welding Technology | Agriscience Center  
Animal Production Science & Technology  
Veterinary Assistant |
| Information Technology Center  
Computer Systems Technology | Construction Technologies Center  
Commercial Construction/Management  
Residential Carpentry | Consumer Services Center  
Cosmetology |
| Visual Communications Center  
Commercial Art  
Digital Design/Print Media  
Photography & Digital Imaging | Consumer Services Center  
Cosmetology  
Early Childhood Education | Health Care Center  
Clinical Care Assistant  
Dental Assistant  
Medical Administrative Assistant  
Medical Assistant  
Nursing Assistant/Home Health Aide  
Sports Medicine / Rehabilitation Technician |
| Part Day  
Introduction to Health Careers | Culinary Arts Center  
Baking & Pastry Arts  
Culinary Arts/Chef  
Event Planning & Tourism Services Management | Transportation Technologies Center  
Automotive Mechanics  
Automotive Technology  
Collision Repair  
Diesel Equipment Technology  
RV & Outdoor Power Equipment |
|  | Protective Services Center (at the Lancaster County Public Safety Training Center)  
Protective Services | Part Day  
Introduction to Health Careers |

### Part Day Programs - Grades 11 & 10

<table>
<thead>
<tr>
<th>Brownstown Campus</th>
<th>Mount Joy Campus</th>
<th>Willow Street Campus</th>
</tr>
</thead>
</table>
| Grades 11 & 10  
Construction Cluster  
Culinary Cluster  
Health Care Cluster  
Manufacturing Cluster  
Transportation Cluster  
Visual Communications Cluster | Grades 11 & 10  
Construction Cluster  
Culinary Cluster  
Health Care Cluster  
Manufacturing Cluster  
Transportation Cluster | Grades 11 & 10  
Construction Cluster  
Culinary Cluster  
Health Care Cluster  
Manufacturing Cluster  
Transportation Cluster  
Visual Communications Cluster |

### General Information:

**Senior Programs – Grade 12**

High school seniors spend the day at one of the three Lancaster County Career & Technology Centers, Brownstown, Mount Joy or Willow Street Campus. Students participate in a comprehensive technical or career-oriented program. The full-day program allows more usable time for instruction and enables students to gain insight into daily work patterns. In full-day programs an LCCTC student may earn college credits toward an associate degree at two year colleges. Through partnerships with area colleges, LCCTC provides a variety of dual enrollment courses. The LCCTC also has articulation agreements with 2-year colleges and technical schools. Dual enrollment and articulation offer college-level segments that give students an additional head start toward their future career and life long learning.

**Part Day Programs – Grades 11 & 10**

Part day programs enable college bound seniors and students in grades 10 & 11 the opportunity to explore different aspects of a career field. The senior part day programs enable students to explore a career area for a few hours during each school day. Since the programs meet for only a part of a day, students can gain technical skills at LCCTC while meeting academic requirements for college at their sending schools. The 10th and 11th grade programs allow students to explore a variety of careers within an occupational cluster and are designed for students who plan to apply for one of the full-time Lancaster County Career & Technology Programs during their senior year.

More information about Lancaster County Career & Technology and its programs can be found at www.lcctc.org. For enrollment and application information, please contact your school counselor.
Electro-Mechanical Engineering Technology
- Design, invent, and develop a vast array of electro-mechanical simulations for a dynamic experience.
- Interactive lab provides an opportunity to use robotics, hydraulic-pneumatic, and electrical technology systems.
- Analyze, diagnose, maintain, and repair electro-mechanical systems.

Sheet Metal Technology
- Create and fabricate custom metal work.
- Build and troubleshoot advanced sheet metal systems.
- Operate state of the art metal-shaping equipment.

Welding Technology
- Perform a wide range of welding processes using advanced welding techniques.
- Assemble and fabricate specialized metal products.
- Practice welds needed for weld certification, use modern power tools/equipment, and interpret fabrication blueprints.

Animal Production Science & Technology
- Explore the care, management, evaluation, treatment and marketing of agricultural production animals such as beef, dairy, swine, poultry, sheep, goats, and horses.
- Experience the passion of working with animals in a variety of farm settings.
- Interact with experts in the field through job shadowing, clinical experience, co-op opportunities, and FFA membership.

Veterinary Assistant
- Experience the reward of caring for animals in a clinical setting.
- Practice customer service and professional ethics when interacting with patients, clients and coworkers.
- Actively participate in live surgical clinics weekly as part of a professional veterinary team.
Architectural CAD / Design
- Work with experienced home and building designers.
- Create, design and produce complex working drawings from conception to completion.
- Use advanced state of the art software and hardware identical to what professional architects and engineers use.

Cabinetmaking & Wood Technology
- Design and layout scale drawings and projects with industry-related equipment.
- Utilize numerous assembly techniques such as glues and adhesives and plastic laminates. Learn procedures for assembly and installation of finished product.
- Demonstrate the Skill Standards set forth by the woodworking industry to obtain industry-recognized credentials.

Commercial Construction/Management
- Construct building projects from site prep and layout to roofing and finish work.
- Operate the latest industry tools and equipment, including hand and power tools, excavation equipment, and safety gear.
- Develop valuable industry certifications in safety, tools, and equipment operations as well as apprenticeship.

Electrical Construction Technology
- Interact with electrical industry experts.
- Develop skills and knowledge needed to build electrical systems.
- Design and construct electrical systems in homes and businesses.

Heavy Equipment Operations & Basic Maintenance
- Operate, trouble-shoot, and maintain heavy equipment.
- Interpret blueprints and site plans for site development.
- Collaborate and perform heavy equipment related activities in a team setting.

HVAC/R
- Work side by side with experienced HVAC industry professionals.
- Analyze and upgrade climate control systems to the ever changing HVAC field.
- Install, maintain, and repair air conditioning and heating equipment.

Masonry
- Develop practical masonry skills through lab practice and actual construction projects in the community.
- Attain the theory foundation required to advance in the work force.
- Participate in an Employability Program enabling job procurement, retention, and career satisfaction.

Painting / Ceramic Tile & Vinyl
- Apply professional painting skills to provide property upgrades.
- Install ceramic tile and vinyl flooring utilizing professional hand and power tools.
- Operate various types of “state of the art” spray equipment.

Plumbing
- Interact with plumbing industry experts.
- Perform plumbing systems installation in homes and businesses.
- Interpret and construct plumbing systems in homes and businesses.

Residential Carpentry
- Experience the construction of a new home using green technology.
- Develop the skills and knowledge needed to interpret and construct current building systems.
- Operate a wide range of hand, power and air tools.
Baking and Pastry Arts
• Work in a state of the art facility with professional pastry chefs.
• Combine creativity and skills to design specialty cakes and pastries.
• Produce baked goods and plated desserts for our restaurant, store, and catering events.

Culinary Arts/Chef
• Plan, prepare and serve meals for upscale catered events and casual-to-fine dining restaurant service.
• Work side by side with professional chefs starting in the school kitchens and moving into professional placements.
• Prepare for job opportunities locally, abroad, and in exotic locations in the diverse culinary and hospitality industry.

Event Planning & Tourism Services Management
• Deliver superior customer service to hotel and event guests.
• Team with industry professionals to plan and assemble upscale events and experiences.
• Design promotional flyers and presentations.

Cosmetology
• Interact with professional cosmetologists to develop the skills needed in preparation for state licensing exam and continuing education.
• Express individual creativity by providing a wide range of hair, nail and skin care experiences.
• Experience and manage professional full service interactive salon environment.

Early Childhood Education
• Explore the early childhood profession by interacting with infants, toddlers, preschoolers and elementary school children in our modern daycare center.
• Create a professional portfolio for college and careers in early childhood education.
• Design, develop, and deliver early learning activities.

Clinical Care Assistant
• Be a driving force on a professional healthcare team delivering high quality patient care.
• Deliver basic patient care and perform therapeutic and diagnostic procedures in a hospital setting, physician's office or home health agency.
• Practice ethical standards, confidentiality, and professionalism when interacting with patients, clients and co-workers.

Dental Assistant
• Experience the satisfaction of providing high quality patient care in a team-oriented, modern dental office environment.
• Perform a wide variety of dental office duties with other dental professionals that include taking x-rays, mixing materials, passing instruments, sterilization and receptionist duties.
• Work alongside other dental professionals to ensure patients receive the highest quality dental care.

Introduction to Health Careers (Part Day)
• Shadow health care professionals in a variety of clinical settings to observe patient care.
• Practice ethical standards, confidentiality, leadership, and professionalism when interacting with patients, clients, and coworkers.
• Develop student interest in a health care profession by using college level curriculum.
Medical Administrative Assistant

- Perform computerized medical office operations in scheduling, billing, and medical records.
- Be a driving force on a professional healthcare team by delivering high quality customer service while performing clerical and other administrative duties in medical centers, physician offices, and hospitals.
- Practice ethical standards, confidentiality, and professionalism when interacting with patients, coworkers, and other medical professionals.

Medical Assistant

- Apply advanced diagnostic procedures to patient care such as phlebotomy and pharmacology; assist in minor office surgeries.
- Participate in a 7 week medical assistant externship in a medical facility.
- Be a driving force on a professional healthcare team delivering high quality patient care.

Nursing Assistant / Home Health Aide

- Experience the passion of providing high quality patient care in a long term care facility and private home setting.
- Perform a wide range of basic nursing skills, personal care skills, and enhanced dining experiences in a classroom and real world setting.
- Work with various healthcare team members providing direct patient care.

Sports Medicine / Rehabilitation Technician

- Motivate students to continue their education such as athletic training, physical therapy, occupational therapy, sports medicine and other relation fields
- Perform a wide variety of duties with other professionals to aid in the successful treatment of patients.
- Strive to be a driving force on a professional healthcare team to deliver high-quality patient care.

Computer Systems Technology

- Build, upgrade, maintain and repair desktop and laptop computers.
- Design, install, and troubleshoot computer network configurations.
- Perform custom work for clients: individuals, schools, and businesses.

Protective Services Academy

- Experience the thrill and pride of saving lives and protecting the community.
- Use the latest technology and equipment available by operating fire engines, ambulances, computer crime scene mapping system, Segways, and more!
- Engage in lifesaving emergency medical treatment, firefighting/rescue techniques, and law enforcement operations.
Automotive Mechanics
- Work on today's high tech vehicle's electronic, computerized, and mechanical systems.
- Develop the skills to be successful in a constantly changing automotive industry.
- Analyze, diagnose, maintain, and repair basic and advanced automotive systems.

Automotive Technology
- Work side by side with experienced Automotive Technicians.
- Experience the thrill of diagnosing today's vehicle's complex computer programs and mechanical systems.
- Develop the skills needed to become a part of the Automotive Technology Team!

Collision Repair
- Perform necessary processes using state-of-the-art welding, refinishing, and painting equipment.
- Diagnose damage and estimate repairs to frame, unibody, and suspension.
- Experience the thrill of repairing real vehicles to a pre-accident condition.

Diesel Equipment Technology
- Use the same advanced diagnostic equipment and repair equipment as master technicians to troubleshoot and repair commercial vehicle systems.
- Perform preventative maintenance and inspection on medium and heavy duty trucks.
- Maintain and operate today's high tech vehicle's computer systems.

RV & Outdoor Power Equipment
- Diagnose, maintain and repair a wide range of lawn and garden tractors and equipment from motorcycles to ATVs.
- Use same advanced diagnostic and repair equipment as a master technician uses to troubleshoot complex systems.
- Work on any outdoor power equipment and recreational vehicle in a rapidly changing industry using a full systems approach.

Commercial Art
- Work directly with Advertising and Design Professionals.
- Experience the same hardware/software as professional illustrators, graphic designers, and art directors.
- Create high-impact art using traditional drawing tools and professional applications for advertising and marketing materials.

Digital Design/Print Media
- Work side by side with graphics industry professionals.
- Create projects and art works on state of the art equipment.
- Design printing works using various techniques.

Photography & Digital Imaging
- Shoot photos like a professional photographer.
- Creatively enhance photos with Adobe Photoshop.
- Work side by side with established industry professionals.
Construction Cluster
- Experience the basic construction trades.
- Operate professional hand and power tools.
- Perform basic carpentry, masonry, plumbing, and electrical skills and more!

Culinary Cluster
- Create desserts from traditional recipes such as cookies and cheesecakes to pastries with artistic presentation.
- Experience the latest trends in food preparation such as Asian cuisine, barbecue, and vegetarian dishes as well as traditional cuisine.
- Plan, prepare, and serve meals for special events.

Health Care Cluster
- Perform a wide range of medical skills in various health care careers.
- Use medical equipment in exploring the human body.
- Practice ethical standard, confidentiality, leadership and professionalism when interacting with patients, clients, and co-workers.

Manufacturing Cluster
- Fabricate and build custom metal projects.
- Operate the same welding and cutting equipment as industry professionals.
- Design, invent and develop electrical and robotic systems.

Transportation Cluster
- Develop the skills to diagnose and troubleshoot today's hi-tech vehicles and equipment.
- Explore and experience the operating systems and repair procedures for a wide range of vehicles.
- Interact with Trade Professionals from Transportation Industry.

Visual Communications Cluster
- Experience drawing, computer graphics, and photography to deliver powerful visual arts.
- Capture photographs with current digital cameras.
- Create and design reproductions utilizing the same hardware and design software as professional graphic artists and commercial print ers.