

A MESSAGE TO STUDENTS AND PARENTS

This Curriculum Guide is intended to provide information and helpful direction to students and parents as they begin the course selection process for next school year. In this book, the administration, teachers and school counselors are attempting to present a clear picture of the many course offerings available so that students and their parents can make informed decisions about an academic plan for the upcoming year.

The decisions for a student's high school academic program are very important. The competition for college entrance, job placement, and the need for increased preparation have made it more important than ever before to plan an academic program wisely in close consultation with parents and school personnel. It is strongly recommended that academic program decisions be the product of a joint effort between parents, students, teachers, and the school counselor.

In order for the course selection process to be effective, parents and their students are encouraged to become familiar with the content of this book. Our school counselors are available to answer questions you may have regarding courses and course selection. Students and parents are encouraged to consult with them as well as any other members of our teaching staff to obtain the maximum benefit of their services during course selection.

Finally, and most logically, in order to effectively develop an academic program, a student must have a goal toward which he or she is working. Selecting courses without some idea of a long-term goal or direction is a difficult and potentially unproductive process. While our graduation requirements provide a general framework for a high school education, they are no substitute for a goal toward which a student should be working. I strongly encourage parents to discuss academic goals with your student.

I believe that high school students have difficult decisions to make regarding course selections. Consequently, it is extremely important to thoroughly investigate and discuss academic and career pathways as they relate to future endeavors. The scheduling process is important to Warwick High School as well because we utilize student course request data to assign staff members, allocate resources, decide which courses will and will not be offered, etc. Therefore, ***no student/ parent initiated schedule changes will be permitted after June 1, 2012.*** Students are responsible for the courses that they request and should consult with their teachers, counselors, and parents prior to making final decisions regarding the course selection process. This process should proceed thoughtfully and decisions should only be made after extensive dialogue between the student and parents/guardians.

Best wishes for successful academic planning.

Troy D. Price
HS Principal

WARWICK SCHOOL DISTRICT MISSION STATEMENT

In collaboration with the community, the mission of the Warwick School District is to enable all students to acquire the knowledge, skills, and values necessary to become responsible, productive, and resourceful citizens.

GOALS OF THE WARWICK CURRICULUM PLAN

The following goals should provide ALL students with the opportunity to graduate from Warwick High School with a career FOCUS and the skills needed to reach their objectives:

- Provide students with an opportunity to increase their awareness of career options.
- Provide a School-to-Work system which includes school-based learning, work-based learning, and connecting activities.
- Increase applied, technical, and problem-solving curriculum content in academic courses.
- Provide students with an opportunity to elect courses related to their specific career focus.
- Connect curriculum content among subject areas.
- Raise the level of expectations for all students.
- Provide a smooth transition between high school and post-secondary school or between high school and work.

K-12 Career Awareness, Development, and Exploration Opportunities

Elementary Grades K-6

Career Awareness and Exploration is a natural part of the curriculum and is integrated throughout the various units of study.

- Social Studies/Science Units: Speakers are used to give students information on careers.
- Career Awareness Activity: Students may dress up for a chosen career.
- Reading: Career awareness material is used as reading resources throughout the year.
- Writing: Students may write about possible careers.
- Guidance: Counselors work with students on career awareness including Career Day and Day of the Arts.

Middle School Grades 7, 8

- Career Interest Inventories and Career Work Skill Inventories are given.
- Web-based research tools provide career and educational information and opportunities to all students and their families.
- Students are encouraged to attend a county wide career night which gives students information related to various occupations and careers.
- Classroom teachers incorporate career exploration and awareness throughout the curriculum.
- Visitation opportunities and programs at the three campuses of the Career and Technology Center are open to all students.

High School Grades 9-12

- Students in grade 9 work on their career portfolio within the Career Cruising website. They complete an interest inventory and select three careers that interest them.
- Students in grade 10 add to their career portfolio within the Career Cruising website. They complete a skills inventory, update the careers that interest them, indicate short term and long term career/post-secondary goals, and are introduced to additional components of the Career Cruising Website.
- Students in grade 10 are introduced to the Lancaster Career and Technology Center offerings and are encouraged to tour the program.
- Students in grade 10 are given the opportunity to tour post-secondary schools in the spring.
- Students in grade 11 are required to complete their graduation project requirement which may include job shadowing and updating their career interests within their career portfolio.
- Students in grade 11 are encouraged to attend a tour of the Lancaster County Career and Technology Centers
- Students in grades 11 and 12 are encouraged to attend college representative meetings in the counseling office, attend college fairs, and open houses.
- Students in grades 11 and 12 are invited on a field trip to the Lancaster Campus of HACC

High School Timeline by Grade Level

Grade 9

- Meet with your counselor. You will receive a pass in homeroom.
- Complete Career Matchmaker on the Career Cruising web site
- February: Parent/ Student course selection time
- Turn in course selection sheet by March 1
- Review course levels and elective choices

Grade 10

- Complete the Skills Inventory of the Career Cruising web site
- November: Tours of the Lancaster CTCs available
- February: Parent/Student course selection time
- Turn in course selection sheet by March 1
- April: Tours of some local technical schools, colleges, and universities available
- Review course levels and elective choices
- PLAN testing

Grade 11

- Ongoing
 - Meet with college representatives in the counseling office
- September
 - Register for PSAT in the counseling office. Visit <http://www.collegeboard>
- October
 - PSAT Testing (2nd Saturday in October)
 - Tours of the Lancaster Campus of HACC available
- November
 - Tours of the Lancaster CTC's available
- December
 - Receive results of PSATs and review areas of strengths and weaknesses
 - Develop a plan to take SATs and/or ACTs

February

- Parent/Student course selection time
- Register for a spring SAT (visit <http://www.collegeboard.com> to register) or ACT (visit <http://www.act.org> to register)

April

- Attend College Night at Warwick High School

May

- Meet with your counselor to discuss post-secondary plans and to review your transcript
- Take Advanced Placement tests if applicable

June

- Take SAT Subject tests if necessary
- Begin to visit colleges on your list

Grade 12

Ongoing

- Meet with college representatives in the counseling office
- Review the Senior Bulletin for scholarship information and reminders

August

- Register for the SAT, SAT Subject tests, or ACT if necessary

September

- Begin the college application process- apply on-line to schools
- Begin to secure letters of recommendations
- Complete "Transcript Request" forms when you need a transcript sent

October

- Take SAT/ACT and have scores sent directly to colleges on your list
- If applying Early Decision, send in your application now
- Sign up to tour the Lancaster Campus of HACC if interested
- Attend Conestoga Valley's College Night

November

- Attend the Open Houses of colleges on your list or schedule a visit

December

- Register for the ASVAB test if interested in military
- Apply for a pin number for federal and state financial aid(<http://www.pin.ed.gov>)

January

- Have parents file income taxes early
- Apply for federal and state financial aid (<http://www.fafsa.ed.gov>)
- Complete a "Transcript Request" form if you need mid-year grades sent
- Be aware of college specific deadlines for admission

February

- Monitor your applications
- Decide on the college you will attend
- Be aware of college specific deadlines for admission

By May 1:

- Send in tuition deposit
- Notify other colleges that offered admission that you have selected another college
- Complete a "Transcript Request" form to have final transcripts sent to your college

May:

- Take Advanced Placement tests if applicable

GRADUATION REQUIREMENTS

The Warwick School District requires a minimum of 22.0 credits for graduation. (See School Board policy 217). The 22.0 credits to be earned must include the following:

Physical Education	1.75	credits	
Liberal Arts/Humanities*	2.0	credits	* May be elected from any department
English	4.0	credits	
Mathematics	3.0	credits	
Social Studies	3.0	credits	
Science	3.0	credits	
Electives	4.5	credits	
Health	0.50	credits	
Driver Education	0.25	credits	
TOTAL	22.0	credits	

The following courses are required for graduation for all students*:

Grade 9	Grade 10	Grade 11	Grade 12
English 9 (1 cr.)	English 10 (1 cr.)	English 11 (1 cr.)	English 12 (1 cr.)
US History II (1 cr.)	World History (1 cr.)	World History (1 cr.)	Civics and Govt (.5 cr.)
Earth Science (1 cr.)	Biology (1 cr.)*	Science **(1 cr.)	
Math (1 cr.)	Math (1 cr.)	Math* (1 cr.)	
PE (.5 cr.)	PE (.25 cr.)	PE (.5 cr.)	PE (.5 cr.)
	Health (.5 cr.)		
	Driver Ed (.25 cr)		
1.5- 2.5 Elective Credits	1-2 Elective Credits	1.5-2.5 Elective Credits	4-5 Elective Credits

*Biology must be completed by the end of 10th grade

**A third math and a third science credit is required and may be selected in any grade.

Students enrolled in an approved ½ day 11th grade CTC program and/or a full day 12th grade CTC program may have modified graduation requirements.

With the approval of the proposed Chapter 4 Academic Standards and Assessment regulations by the Pennsylvania Legislature, graduation requirements for students attending Warwick High School include:

1. Complete the prescribed course/credit requirements as set forth above.
2. Successfully complete a culminating project (Graduation Project) which demonstrates the student's ability to apply, analyze, synthesize, and evaluate information and communicate significant knowledge and understanding.
3. Demonstrate proficiency in reading, and mathematics on either the State assessments administered in grade 11 or 12 or local assessment aligned with academic standards and State assessments. Successful completion of a remedial class or program is another way to meet this requirement.
4. Demonstrate proficiency on Keystone tests beginning with class of 2014-15.

Graduation Information

The high school principal will determine a student's eligibility for a diploma from Warwick High School and certify that the student has met all requirements. Only students who have met all of the graduation requirements as per Board Policy 5190 will be eligible to participate in the commencement ceremony.

Graduation Project Requirement Guidelines

All students must complete a culminating project as required by Pennsylvania State Graduation Requirements. The Warwick High School web site (<http://www.warwicksd.org>) has a link to more information about this requirement. Students at Warwick High School must complete a career portfolio within the Career Cruising web site (<http://www.careercruising.com> username: warwickhs, password: warriors). Students must also complete career exploration in the form of a job shadow experience OR complete a service experience in the form of 25 hours of community service. A 5 paragraph essay related to these experiences is required by February of the Junior year. Specific requirements and a timeline can be found on the Warwick High School web site (<http://www.warwicksd.org>).

Promotion Standards

In order for students to be promoted to the next grade level homeroom and to be members of a specific class (Sophomores, Juniors, Seniors), they must have earned a minimum number of credits. These minimum credit standards are:

<u>Grade Level</u>	<u>Minimum Total Credits</u>
10	4.5
11	10
12	15

Early Graduation

Plans for early graduation must be considered at course selection time. Students must apply and be approved for early graduation through their counselor by the end of their 10th grade year. Before early graduation is granted, the student must secure the approval of his/her parents, school counselor, and high school principal. Detailed information pertaining to early graduation is available from the guidance office.

Policies and Procedures

End of Semester/Year Course Failures

Students who fail a course required for graduation will need to meet with their school counselor in order to develop a plan for course completion. This plan may include retaking the course at another school district that runs a summer school program or retaking the course through Keystone Credit Recovery online (correspondence packets will no longer be accepted with the exception for Physical Education). This plan may include rescheduling the course for the next school year if the course is available. Elective courses will be dropped if necessary to accommodate the rescheduling of failed courses. Students must get credit recovery courses pre-approved by their high school counselor before enrolling, to ensure that the course will be accepted by the Warwick School District.

Please note: Grades for all outstanding required courses need to be received at the high school counseling office by August 15, 2012 or the course will automatically be rescheduled for the 2012-2013 school year.

Advanced Credit Policy

Preapproval for advanced credit courses must be obtained from the counseling office. With prior approval, students may take one advanced credit course per academic year to replace a Warwick High School required course. Students may elect to take additional college level courses. Students may be able to attend college on a part-time basis as a junior or senior, attend college full-time for their senior year, or graduate early from high school. In addition, the student would be required to meet the entrance requirements of the college or university and pay all costs associated with college enrollment including registration, tuition, dues, fees, textbooks and transportation. The only courses that will be accepted for advanced credit are courses that are college level courses taken at an accredited college or university or advanced credit high school courses. High school schedules will be adjusted to accommodate scheduling advanced credit college courses within the parameters of the master schedule. Advanced credit courses taken at other educational institutions will not be included in GPA or class rank calculations.

Report Cards

Marking period report cards are distributed to students approximately 2 weeks after the end of each marking period. Final report cards are mailed home approximately 1 week after the last day of school.

Grading Scale

The following are the numerical values given each letter grade for honor roll and class rank:

A+= 4.25	A= 4.0	A-= 3.75
B+= 3.25	B= 3.0	B-= 2.75
C+= 2.25	C= 2.0	C-= 1.75
D+= 1.25	D= 1.0	D-= 0.75

The following grading system will be used to determine report card grades:

A+= 100-97	A= 96-93	A-= 92-90
B+= 89-87	B= 86-83	B-= 82-80
C+= 79-77	C= 76-73	C-= 72-70
D+= 69-67	D= 66-63	D-= 62-60

Class Rank

Class rank is computed on the basis of grades earned in all subjects taken in grades 9 through 12 for which credit is granted. Courses from other educational institutions will not be counted toward a Warwick High School GPA or class rank. For Grade Point Average calculations, the following courses are weighted:

Advanced Accounting	Chemistry II
Advanced Algebra 2	Data Structures I, II
Advanced Composition	Honors English 11
Advanced Plane Geometry	French IV,V
Advanced Seminar	German IV, V
AP American Government	Honors Chemistry
AP American History	Honor Physics
AP Biology,	Introduction to Genetics
AP Calculus AB	Organic Chemistry
AP Calculus BC	Physics
AP English 12	Pre-Calculus
AP Probability & Statistics	Probability and Statistics
AP Studio/Portfolio	Spanish IV,V
AP World History	Trigonometry
Calculus	

The weighted value for a 1-credit course is 1.2 quality points and the weighted value for a .5 credit course is .6 quality points.

Studying Abroad

Students wishing to study abroad should contact their school counselor no later than the fall of the year prior to which they plan to travel.

Transcript Requests

Students needing to submit transcripts are required to complete a transcript request form. Each transcript costs \$1 to cover the cost of mailing. Please allow 10 school days for transcript requests to be processed and mailed.

Attending the Lancaster County Career and Technology Center

Students planning on attending the Career and Technology Center (CTC) during their junior year of high school will need to schedule the following courses at Warwick:

English 11

Math

Science

Civics and Government

Physical Education

Please note: World History will be waived for the junior year as long as CTC is scheduled for the senior year.

Current sophomores planning on attending CTC for only their senior year will need to schedule American Government and World History during their junior year. Physical Education will be waived for senior CTC students and an English grade and credit will be earned at CTC.

Withdrawing From a Course

A student is expected to remain in a selected course for its full term. Withdrawal from a course will result in the student receiving a **withdrawal failing (WF) grade on the current report card as well as the student's permanent transcript.**

Student Academic Fund

There is limited financial assistance available to students who choose to take an elective course that requires a lab fee. This program is designed to serve only those students who qualify for free and reduced lunches. Please inquire in the high school office for more information.

Pennsylvania System of School Assessment (PSSA) & Remediation Courses

The PSSA is an assessment, created by the state, used to measure a student's attainment of the Pennsylvania academic standards, while also determining the degree to which school programs enable students to attain proficiency of the standards. Individual student scores can be used to assist teachers in identifying students who may be in need of additional educational opportunities. School results provide information to schools for curriculum and instruction improvement discussions and planning. PSSA annual results are the major determinants of whether schools and districts make Adequate Yearly Progress (AYP), as outlined in Pennsylvania's No Child Left Behind (NCLB) accountability system. One of Pennsylvania's graduation requirements is proficiency in the academic standards, as demonstrated by scoring proficient or advanced on the 11th grade PSSA test.

What if students do not achieve proficiency on the 11th grade PSSA test?

1. As a 12th grader, students not scoring proficient have an opportunity for a PSSA re-test in October of their 12th grade year.
2. Students will be required to complete a remediation course to prepare them for the re-test. This course will be offered in the summer preceding their senior year and again as an online

independent course of study in the fall of their senior year. Students not passing the PSSA re-test will then have their graduation requirement fulfilled by successfully demonstrating proficiency in the aforementioned remediation class.

Why is the 8th grade PSSA test important for students entering the high school?

NOTE - Students in 8th grade who do not score at the proficient or advanced level on the 8th grade PSSA test will be assigned to a 9th grade remediation course. Strategic Math and/or Strategic Literacy will be added in place of an elective to provide additional support in mathematics and/or reading.

NCAA Academic-Eligibility Requirements

Student-athletes interested in eventually participating in collegiate athletic team competition, especially at a Division I and Division II college, should note the list below of Warwick High School's **Approved Core Courses (Form 48-H)** established through the NCAA Initial-Eligibility Center. Along with posting minimum score requirements in either the SAT I or the ACT College entrance exam, a student-athlete will need to carry a minimum core course grade point average (Core Course GPA) upon graduation from Warwick High School of at least a 2.00. This Core Course GPA is calculated by the NCAA Clearinghouse office by using the best course grades from NCAA established core course requirements from the list of Approved Core Courses below. Sixteen (16) specified core course credits must be completed for those student-athletes interested in Division I competition (Division II requires 14 core course credit requirement). As the following year's program of study is selected, potential collegiate student-athletes should be aware of the NCAA academic eligibility requirements which pertain specifically to Division I and Division II athletic participation. Division III colleges are not held to the academic guidelines of the NCAA Initial-Eligibility Center. Student-athletes should review the material at <https://web1.ncaa.org/eligibilitycenter/common/> to update themselves on recent changes to the NCAA policy. Student-Athletes can pick up a recent copy of the Guide for the College Bound Student Athlete in the guidance office or the athletic director's office. This is an excellent tool to help plan your high school curriculum so that you meet all the NCAA-Eligibility Guidelines. **It is the student-athlete's responsibility to be aware of NCAA Academic-Eligibility requirements.**

NCAA Approved Core Courses from the Warwick High School Curriculum

English / Communication Arts

English 9- levels 1,2,3
English 10- levels 1,2,3
English 11- levels 1,2,3
English 11- Honors
English 12- levels 1,2,3
English 12- AP
Advanced Composition
Creative Writing
Drama
Journalism
Journalism 2
Speech 1
Speech 2

Mathematics

Algebra 1
Algebra 2

Social Sciences

American History- AP
American Government (Civics and Government)
Anthropology
Government and Politics- AP
Practical Psychology
Prin. Of Economics
Social Problems
Sociology
US History 2- levels 1,2,3
US History 3- levels 1,2,3
World Geography
World History
World History- AP

Natural/Physical Science (X indicates Lab science)

Anatomy / Physiology
Biology – levels 1,2,3 X

Algebra 2
Algebra 3 / Trigonometry
Calculus
Calculus AB
Calculus BC
Plane Geometry
Plane Geometry
Pre-Calculus
Probability and Statistics
Probability and Statistics / AP
Trigonometry

Advanced Biology- AP **X**
Chemistry- College Prep **X**
Chemistry 2 **X**
Chemistry- Honors **X**
Chemistry- Organic **X**
Chemistry- Practical **X**
Adv. Design Engineering
Earth Science **X**
Intro to Genetics **X**
Physics **X**
Physics- Honors **X**

Additional Core Courses

French 1,2,3,4,5
German 1,2,3,4,5
Spanish 1,2,3,4,5

Course Selection Information

Criteria for Selecting Courses

Academic and career decisions should be reached only after such factors as abilities, aptitudes, interests and personality of the student have been considered. Students and parents are encouraged to utilize school counselors, and their resources, including Career Cruising for the collection of ideas and data to be used during the decision making process. Information regarding educational and occupational opportunities is available to high school students and parents in the high school counseling office. Some of the opportunities include: Armed Forces, Business Schools, Career Schools, Apprentice Training, Colleges, Community Colleges, Schools of Nursing, Technical and Trade Schools and Universities.

Course Selection Guidelines

To select courses for the next academic year, students complete a course selection contract which parents and students sign. Please refer to the list of elective courses provided on the back of the course selection contract. Course descriptions throughout this manual may also be helpful in the decision making process. Students failing to return the contract by the due date will be scheduled into courses selected by their counselors.

All students are required to schedule between 6 – 7 credits per school year. The principal must approve all exceptions to this requirement.

Students are reminded to seriously consider each course they select for the following school year. Students make a commitment to take the courses they choose. Based upon course request information, the administration builds the master schedule. This schedule reflects the interests of the students. Course sections are determined by the initial requests and teacher availability. Adjustments are made to reduce scheduling conflicts and to help students to take as many of their selected courses as possible. The entire process takes four months. The objective is to fulfill as many students' course requests as possible. **It is not the purpose of this master schedule process to accommodate course change requests after the initial sign-up period.** Therefore, it is strongly suggested that careful consideration to course selection be given during the initial sign-up phase of the process.

Students are permitted to submit course change requests during the selection and verification stages of scheduling which is from February through May. After June 1, course changes will not be honored.

"Choosing the Right Course" Checklist

- 1. Review the graduation requirements
- 2. Review your educational goals, interests, and plans
- 3. Decide what level of course is best suited to meet your goals and needs. Talk with parents and teachers about their recommendations. Check for prerequisites.
- 4. Choose your core courses (English, math, science, and social studies)
- 5. Make up failed courses
- 6. Choose elective courses based on goals, interests, and plans. Check prerequisites.

Keeping Track of Credits/ Scope and Sequence

While the school counselor keeps track of students' credits required to graduate from Warwick High School, it is the responsibility of the student and parent to make sure that the student is meeting the requirements of the particular post-secondary institution that the individual student is interested in attending. In addition, athletes wishing to compete for a Division I or II school are responsible for being aware of NCAA Eligibility Center requirements.

Service Learning

0960 - Open Campus – 1 or 2 credits (Semester or full year)

Year - Grade 12

Open Campus is a program that provides students with release time during the day to pursue career-related goals or additional knowledge not otherwise available in the school program. Securing a sponsoring agency, developing the schedule (five days per week required) arranging transportation and making any other arrangements are the responsibility of the student. Students must have a minimum GPA of 2.75. This course is limited to forty students per semester.

0958 - Teacher Assistant - .5 or 1 credit

Year - Grade 12

The Teacher Assistant Program is designed to provide students with an opportunity to pursue career goals and experience "real life" occupational situations in education.

Students who select Teacher Assistant typically do research, preparation, and organization for the teacher they work with. The student should have a desire to pursue the subject area or secondary teaching. The Teacher Assistant program is limited to twenty-five students.

Requirements to enroll:

- Seniors only
- GPA of 3.0 or better; excellent attendance record; only minor disciplinary issues
- Serious career interest in subject assist
- Teacher permission
- One period per semester; can be elected for entire school year
- Students must volunteer 60 hours per semester

Community Service Program - .5 credit

Grade 9, 10, 11, 12

The Community Service Program is designed to foster and reward community volunteerism. It is offered as a supplement to traditional comprehensive high school offerings. This program is designed to bring together youth and the community to benefit human services. Securing the sponsoring agency, developing a schedule of volunteer time, arranging transportation and completing all paperwork are the responsibility of the student with the aid of the program coordinators. The student must complete a minimum of 60 hours of volunteer work for 1/2 credit. Students will be required to complete daily logs and written journals of their experiences. Students may earn a maximum of two (2) credits in Community Service during their high school years. All Community Service hours are completed outside the school day.

Course Descriptions

AGRICULTURE SCIENCE AND TECHNOLOGY

The Agriculture Science and Technology Program is sanctioned by both the state and federal governments. These agencies require that FFA and occupational experience is an integral part of the curriculum and each Ag Science course. All students will be presented instruction in aspects of the FFA including membership requirements, parliamentary procedure and leadership development. While membership is voluntary, students will be encouraged to take part in FFA and agriculture occupation activities.

0933 - Introduction to Agricultural Studies - .5 credit **Semester - Grade 9**

This is an introductory course for prospective agriculture students planning to take Animal Science, Small Animals and Horses, and/or Welding. Instruction will involve the principles of animal culture, agriculture leadership and agriculture mechanics. Students will perform activities and experiments including, incubation, livestock judging, arc welding, and plant science.

0935 - Introduction to Natural Resources - .5 credit **Semester -Grade 9**

This is an introductory course for prospective wildlife and forestry students. Instruction will involve the principles in managing wildlife, natural resources and plant science. Students will perform activities and experiments including soil testing, and water quality analysis.

0934 - Supervised Occupational Experience -1 credit **Independent Study -Grade 9, 10, 11, 12**

Students will receive credit for on-the-job training in agriculture occupations. The students maintain and complete respective record books as provided by the instructor. Size and scope of the experience must meet Pennsylvania Department of Education requirements. Students will not be released during the school day for this program. On-site training must occur during non-school hours.

936 - Animal Science - .5 credit **Semester -Grade 10, 11, 12**

Explore the exciting area of domestic animals. Students will learn about animals from a consumer standpoint. Students will become familiar with reproduction, nutrition and general care of beef cattle, dairy cattle, sheep, swine and goats, bees and aqua culture. (.5 Science credit may be earned for taking this course.)

0939 – Forestry - .5 credit
Semester - Grade 10, 11, 12

The study of forestry careers, tree identification, silviculture and the history of forestry in Pennsylvania are included in this course. Student outdoor exercises include tree identification, land measurement, and tree measurement. Student skills in the use of hand tools, surveying equipment, compasses and tree keys will be developed. (.5 Science credit may be earned for taking this course.)

0940 - Plant Science and Horticulture - .5 credit
Semester - Grade 10, 11, 12

Instruction is given in gardening, greenhouse work, landscaping, turf grass management and agronomy. Student exercises will include propagation, transplanting and pruning of plants in greenhouses and out-of-doors. Students will work with lawns, shrubs, trees, flowers, bonsai and vegetables. Soil testing, plant fertilization and pest control will also be included. (.5 Science credit may be earned for taking course.)

0943 - Small Animals and Horses - .5 credit
Semester - Grade 10, 11, 12

Instruction is given in the care of non-farm-domesticated animals and pets. Students will study identification, selection, housing and showing of cats, dogs, horses, and other small animals. The horse will be studied as a pleasure, draft, racing, and ranch animal. (.5 Science credit may be earned for taking this course.)

0944 - Small Engines - .5 credit
Semester -Grade 10, 11, 12

This is a performance-based course where students will develop skills in the actual welding of metals using SMAW (stick), MIG, TIG and oxyacetylene welders. Students will weld butt, lap, fillet and corner joints. Other activities will include cutting, grinding and brazing.

0948 – Welding - .5 credit
Semester - Grade 10, 11, 12

This is a performance-based course where students will develop skills in the actual welding of metals using SMAW (stick), MIG, TIG, and oxyacetylene welders. Students will weld butt, lap, fillet, and corner joints. Other activities will include cutting, grinding, and brazing.

0950 - Wildlife Management I - .5 credit
Semester - Grade 10, 11, 12

Discover the importance of wildlife in our environment! Studies focus on various habitats, wildlife populations, watershed ecology, and the biology and natural history of fish, amphibians, reptiles and birds. Students develop skills in wildlife observation and identification. (.5 Science credit may be earned for taking this course.)

0951 - Wildlife Management II - .5 credit

Semester - Grade 10, 11, 12

Prerequisite: Wildlife Management I

This course picks up where Wildlife Management I left off and continues to focus on the biology and natural history of birds, and the variety of small and large mammals found in Pennsylvania and North America. We study and research wildlife management techniques, including hunting. Other topics include, threatened and endangered species, invasive species, and wildlife tracks, skulls, and furs. (.5 Science credit may be earned for taking this course.)

ART

0723 – Foundations of Art - .5 credit

No Prerequisite

Semester -Grade 9, 10, 11, 12

This course is a semester-long course for students with no prior art experience at Warwick High School. Foundations of Art will cover a variety of materials, focusing on elements and principles of design through the production of two-dimensional and three-dimensional artwork. (This course will serve as a prerequisite for other art courses in the future, but is not a prerequisite at this time).

0725 - Art 9 - 1 credit

Year - Grade 9

Art 9 is a year long foundation course offering exploration of various media with particular focus on observational drawing, color theory, composition and expression. Three-dimensional work will be included in the curriculum. The elements and principles of Art and Design are emphasized as students are introduced to new media.

0728- Art 10 – 1 credit

Year - Grade 10

Art 10 is a year long course that studies the techniques, methods and concepts of the visual arts. Students will continue to develop skills and build on techniques, which could include drawing, painting, printmaking, textiles, and sculpture. This course builds on knowledge from 'Art 9', but may be taken without previously being enrolled in an art class.

0731 - Art 11 – 1 credit

Year -Grade 11

Art 11 is a year long course that continues to study the techniques, methods and concepts of the visual arts. Students continue to build skills by beginning to work more in depth and independently. Art 11 encourages students with previous art experience to begin developing a personal style in art. This course

builds on knowledge from Art 9 and Art 10, but may be taken without previously being enrolled in an art class.

0741 - Art 12 – 1 credit
Year - Grade 12

Art 12 is a year-long course that continues to study the techniques, methods and concepts of the visual arts. Teacher-directed projects are enhanced with independent projects that may be used in conjunction with AP Studio Art. Students will explore media in depth including drawing, painting, printmaking, sculpture and 3-D design.

0751 - AP Studio/Portfolio – 1 credit (Weighted Course)
Year - Grade 12

Prerequisite: Art teacher approval. Students wishing to take AP Portfolio are *strongly* urged to take Art 12 as well.

Art Portfolio is a weighted, year-long course for students wishing to complete portfolios for entry into Art College or is choosing a career in art. Opportunities to work towards college credit through AP studio art and to work in an area of personal concentration are available as part of the curriculum of this course. Students will become well versed in composition, color and design principles as well as new materials and processes during the course of the year.

In addition to class work, extensive homework assignments are regularly given to prepare students for the rigors of Art College and build successful portfolios. AP Portfolio students are also required to participate and help out with the annual high school art show at the end of the year. **(A \$20.00 lab fee will be collected in the first two weeks of the semester to help cover project costs.)**

0761 - Art History Prehistoric - Post Modern - 1 credit
Year - Grade 11, 12

Art History is a year-long course for students interested in humanities studies or pursuing courses in Art Education or Fine Arts. Students will survey the art and architecture of the different cultures and periods from the Prehistoric to the Post Modern era. This course includes slide identification, lecture and various field trips. Students electing Art History will have the option of taking the Advanced Placement Art History test. Art History is open to all students and does not require any previous art course or Art experience.

0771 – Textiles – .5 credit
Semester -Grade 10, 11, 12

Textiles is an introduction to fibers as an art medium. Projects may include weaving, batik, macramé, and basketry. Traditional and contemporary methods of textile creation will be covered. This course may be taken without previously being enrolled in an art class.

0780 - Ceramics I - .5 credit
Semester - Grade 11, 12

Ceramics I is an introduction to clay as an art medium for hand building, wheel throwing, and sculpting. Through building both functional and nonfunctional ceramics pieces, students will learn about the chemical and physical properties of clay. Students will have the opportunity to work with multiple types of clay, as well as utilize various types of glaze and surface decoration. **(A \$10.00 lab fee will be collected in the first two weeks of the semester to help cover project costs.)**

0782 - Ceramics II - .5 credit

Semester - Grade 11, 12

Prerequisite: B+ average in Ceramics I and/or Instructor approval

Ceramics II is a course for students who have successfully completed Ceramics I, and are interested in further developing their skills with clay. Complex ceramic forms, techniques, and vocabulary will be taught while students work more independently towards individual goals. **(A \$10.00 lab fee will be collected in the first two weeks of the semester to help cover project costs.)**

0783 – Fine Art Metals - .5 credit

Semester – Grade 11, 12

This course will provide students with the opportunity to work creatively with a variety of metals. The introductory use of plastic, epoxy resin, wood and found objects will also be explored as part of the elements of jewelry design. The focus will be to develop skill and craftsmanship in order to create quality work. **(A \$20.00 lab fee will be collected in the first two weeks of the semester to help cover project costs.)**

BUSINESS/FINANCE/ENTREPRENEURSHIP EDUCATION



Any course with this symbol will prepare you to take the core level of the Microsoft Certification test.

0610 – Business Dynamics and Career Exploration - .5 credit

Semester – Grade 9, 10

The world of business is exciting, challenging, attainable and rewarding. This class for 9th and 10th grade students is designed to learn business concepts and develop business skills used by everyone regardless of their career path. If you are looking towards a future in entrepreneurship, the foundation to prepare starts here with an understanding of economics, leadership, business organizations, franchise exploration, social responsibility and business ethics. Students will explore career opportunities. A record keeping simulation will provide a introduction to the world of accounting while teaching students banking and checking concepts.

0680 – Small Business Ownership - .5 credit

Semester – Grade 11, 12

(Software Used in Course: Microsoft Office 2007 and the Virtual Retail Software Simulation)

This is your chance to learn how to plan a small business! Amaze investors, bank loan officers, accountants and lawyers by understanding the importance of a business plan for your new entrepreneurial venture. The units of study associated with this course include: examining entrepreneurship as a career, sources of new business enterprise ideas, analyzing markets and studying competitors, planning and organizing a business enterprise, marketing products/services, obtaining financing, cash flow charts, preparing a financial plan, and selling your idea through the development of a business plan. Lessons from the "Mean Jeans Manufacturing Co." simulation will be incorporated where students manage a small business community model.

0650 - Business Administration & Management (BAM) - .5 credit

Semester – Grade 10, 11, 12

(Software Used in Course: Microsoft Office 2007 and the Virtual Business Software Simulation)

Students in this course will have an opportunity to build a foundation in business management principles and practices that impact ALL business operations. Students will use Moodle with Microsoft Office Word & Excel, the business management software simulation, and the Business Center (self-paced interactive case studies with hands-on problem solving). Topics of study include: Business and Its Environment, Management Responsibilities, Financial Management, and Human Resources Management.

0652 - International Business - .5 credit
Semester - Grade 10, 11, 12

Our world is global and International Business and trade affect you. We all live and work in a global marketplace. More businesses are becoming active in the international marketplace. This course will give students an opportunity to study concepts of international business, to increase cultural awareness, and to explore economic, cultural, geographic, and political factors that affect business in the global economy. Choose a country and product for a trade project based on your own personal interest and complete hands-on activities, Internet research, and on-line discussion forums to expand your knowledge of the world of trade. **Come and journey into the world of global business.**

0653 - The Law and You - .5 credit
Semester - Grade 11, 12

Do you wonder where laws come from? Did you ever wonder if an act was "illegal" or "legal but unethical"? Do you know the difference between *civil* vs. *criminal* law? How does *consumer law* protect you when buying a car, renting your first apartment or purchasing insurance? Do you know there are "*cyber laws*" to protect on-line activities? Learn this and more so you are prepared to tackle real-life issues you may face in your future. Participate in a mock trial where you may be the judge, attorney, witness, plaintiff/defendant or a member of the jury.

0654 – Sports and Entertainment Marketing - .5 credit
Semester – Grade 10, 11, 12

(Software Used in Course: Microsoft Office 2007 and the Virtual Sports Software Simulation)

Walking into Lincoln Financial Stadium, you ask yourself why is their name on the stadium? You hand your ticket to the attendant and you wonder how does the Eagles' management decide ticket prices? In the stadium you notice the various field banners advertising several companies; you check the score of the game, Wow, yet another company name. Who decides this? How do they know what Eagle products to sell? Why are all the NFL uniforms Reebok? Who decides what games to broadcast on TV? Learn how the sport and entertainment business industry works to meet their customer needs, and explore the planning involved in deciding what products and services to sell and how marketing affects sales. Virtual Sports Management software will help you analyze and make marketing decisions.

0642 - Accounting I - 1 credit
Year - Grade 10, 11, 12

(1.0 math credit may be earned by taking this course if other math requirements are met.)

(Software Used in Course: Automated Accounting Program and QuickBooks)

Accounting is more than just another course! Since every career area, job, individual, and family is based on finance, this course is a life skill not just a career choice. Accounting I will give you a good background in generally accepted accounting concepts. You will study the accounting cycle and then apply those principles to various situations and organizational types--sole proprietorships, corporations, service businesses, and merchandising businesses. This course will also give you an opportunity to learn how to keep your personal records and how to maintain and reconcile your own checking account.

This course is important if you would like an entry-level full-time or part-time position OR if you plan to attend a two-year or four-year school in a business-related field. REMEMBER, even if accounting is not in your career plans, the material you learn will have valuable personal use.

0643 - Accounting II - 1 credit

Year - Grade 11, 12

Prerequisite: Accounting I

(Software Used in Course: Automated Accounting Program and QuickBooks)

After a review of the accounting cycle basics, you will apply these principles to projects and simulations for sole proprietorships, partnerships, and corporations. Other topics in Accounting II include: inventory control, depreciation of plant assets, notes, receivables and payables, cash and marketable securities, corporate stocks and bonds, and uncollectable accounts. Computers and simulations will be used extensively to complete general ledger, accounts receivable, accounts payable, and payroll projects. Taking Accounting I and Accounting II will give you highly marketable job skills as well as prepare you for college accounting.

0644 - Advanced Accounting - .5 Credit (Weighted Course)

Semester - Grade 11, 12

Prerequisite: Accounting I completed or currently taking Accounting II

(Software Used in Course: Automated Accounting Program and QuickBooks)

This **weighted course** is designed for students who are interested in pursuing a two- or four-year degree in accounting, finance, or business administration. It will provide students with the opportunity to apply skills already learned and to further develop accounting knowledge in the following areas: cost accounting, budgetary analysis, financial statement analysis, managerial accounting, and corporate accounting. Students will collect, organize, analyze, and communicate financial information and develop the ability to make informed decisions and recommendations based on financial data. Computers will be used in this course.

0624 – Microsoft Office Word/Excel - .5 credit

Semester - Grade 9, 10, 11, 12



Picture yourself with three projects due by the end of the week. In one class, you are required to display your lab data in an Excel spreadsheet, include charts and import your results in a word document. Arrrrrgh.... You don't know how! Don't find yourself in this position. Learn the features of both Word and Excel so those numerous papers can be done quickly and efficiently. Did you know that colleges are giving credit for Microsoft Certification?

0625 – Microsoft Office PowerPoint/Access- .5 credit

Semester - Grade 9, 10, 11, 12



Learn how to give that tired old PowerPoint project some pizzazz with animations, music and movie clips to impress your teacher and classmates and maybe get that extra credit you need! Need to set up a database to hold statistics from your science, math or business class? Learn Access to effectively set up queries, tables and reports to get the answer you need within seconds! Did you know that colleges are giving credit for Microsoft Certification?

0626 – Microsoft Office Advanced Word/Excel- .5 credit

Semester - Grade 10, 11, 12



So you had fun learning the basic features of Word and Excel. Want to learn the **advanced features** and put the zing in your assignments and the zest into those spreadsheets and tables? Find out how these functions can make Word and Excel put you ahead of the class! Did you know that colleges are giving credit for Microsoft Certification?

0660 – Multimedia Presentations and Publications - .5 credit

Semester – Grade 10, 11, 12

(Software Used in Course: iLife, iPhoto, iMovie, Garageband, Photoshop & Dreamweaver)

HERE IS YOUR CHANCE TO ENHANCE YOUR CREATIVE SIDE WITH COMPUTER SKILLS! In this class, you will learn different types of multimedia that can be used in your classes or your personal life. Projects will include audio and video podcasts, Garageband music, Photoshop logos and picture enhancements, Dreamweaver webpages, and Flash animations. This is a hands-on course where you can work with partners or alone. You will incorporate the use of different hardware devices such as a digital video camera, a digital camera, a scanner, and iPod devices. This class will introduce Web 2.0 tools that are all the hype now. These will include blogs, wikis, and other social networking tools.

0665 – Personal Money Management - .5 credit

Semester – Grade 9, 10, 11, 12

(Software Used in Course: Quicken, Stock Market Game, Virtual Personal Finance Software)

Stay out of debt--invest in your future--become a millionaire. Personal money management will help you learn the "tricks of the trade" to be a good money manager as well as a successful investor. Invest \$200,000 in the stock market and see how much money you can make. Complete your own tax returns and learn how to develop credit so you can buy your first car. Learn how to save now so you have money for college or future expenses. These are just a few exciting topics covered in this course that teaches you valuable life skills you will use the rest of your life. Remember, to have and keep money you need to know how to manage it! Learn to manage your money; don't let your money manage you!

0641 – Keys to Success - .5 credit

Semester – Grades 9, 10

This class is sure to help you have a successful time in High School. Basic computer skills and Web 2.0 tools will be learned. These skills will include Moodle, Google Docs and Wikis. Study skills will be a priority with students learning skills for note taking, test taking, and time management. **Career Cruising** will be utilized to help students with their graduation projects and to research potential career and educational options. Graduation reports/projects will be completed in this course.

0640 - Lecture Notetaking and Study Skills - .5 credit

Semester - Grade 11, 12

This class is sure to help you have a successful time in college. Your class notes can serve as an important tool for reviewing for exams and mastering concepts. You learn techniques that enable you to take lecture and research notes quickly and efficiently including effective highlighting and summarizing techniques. Practice on specific skills for your future include: time management, organizations, listening, following directions, memory and study skills, and test-taking skills.

DIVERSIFIED OCCUPATIONS

0964 - Diversified Occupations Class – 1 credit

Year - Grade 12

Prerequisite: Prior approval by diversified occupations coordinator and submission of completed student application, training agreement and signed regulations sheet prior to the start of school.

The purpose of this course is to prepare students to enter the world of work. The course is divided into three areas. The first phase covers career exploration and job seeking skills. The second phase covers employment retention and safety, while the final phase covers personal and financial management. This course will include such topics as taxes, legal contacts, labor laws, insurance, consumer skills and other related topics. Students must be concurrently enrolled in #966, work experience.

At the end of their junior year, a student must meet the following qualifications to be admitted into the diversified occupations program his/her senior year.

- Have accumulated no less than 15 credits prior to September 1st of their senior year.
- Have completed a program application
- Have limited academic, attendance and discipline issues

0966 - Work Experience – 2 credits (Varies with each student)

Year - Grade 12

This course allows for the placement of a student in the occupation of their choice for a period of one year to develop job skills. The student will be released from school to work at a training station during their senior year and will be required to work a minimum of 15 hours per week, 150 school days. The student will be evaluated by his/her employer and the D.O. Coordinator on an average of once every four weeks, with the employer completing a written evaluation of the student's progress at that time. Prior approval of the student's place of employment must be obtained from the D.O. Coordinator. Students must be concurrently enrolled in #964, D.O. class and submit a completed training agreement, student application and signed regulations prior to the first day of school.

DRIVER EDUCATION

0870 - Driver Education - .25 credits

3 days/6 day cycle - Semester - Grade 10

The primary purpose of this course is to provide the young driver with the knowledge and skills he or she will need to become a safe, efficient user of the highway transportation system. The driver education course places emphasis on licensing procedures, insurance coverage, defensive driving tactics, basic vehicle operations and maneuvers, road laws, sign colors and meanings, driving in unfavorable conditions (night, weather, etc.), trip planning, emergency procedures, alcohol and driving, distracted driving, fatigue and driving, road rage, and much more!

HEALTH/PHYSICAL EDUCATION

0840 – Health - .5 credit
Semester - Grade 10, 11, 12

This course includes information regarding valuing health, lifestyle choices and diseases, body systems and related medical conditions, mental health and self-esteem, drugs, tobacco, alcohol, nutrition, healthy relationships and sexuality, CPR and first aid.

0845 – Introduction to Anatomy & Physiology - .5 credit
Semester – Grade 11, 12

Prerequisite: Successful completion of 10th grade Health

This course will benefit students interested in a medical, therapy, nursing, health, physical education or athletic training related career or art. This course includes an overview of the eleven body systems, terminology, body tissues, integumentary system (skin), skeletal system, and muscular system. Labs include making a skeleton, dissection, tooth casting, and forensic anthropology.

0851 - Physical Education 9 - .5 credit
Semester - Grade 9

The primary aim of Physical Education 9 is to equip students with the knowledge, skills, and enthusiasm to maintain a healthy lifestyle into adulthood, regardless of physical ability. Activities included in the course are designed to promote physical fitness, to develop motor skills, to instill knowledge and understanding of rules, concepts, and strategies, and to teach students to work as part of a team, or as individuals, in a wide variety of fitness and cooperative activities

0853 – Fitness and Weight Training (10) - .25 credit
3 days/6 day cycle - Semester - Grade 10

This course is designed to help students evaluate and engage in an individualized physical activity plan that supports achievement of personal fitness and activity goals and promotes life-long participation. Students will also incorporate and synthesize knowledge of exercise principles, training principles and health and skill-related fitness components to create a fitness program for personal use. Specific topics covered include; safety factors, benefits of weight training, heart rate formulas, basic components of fitness, benefits of cardiovascular fitness, flexibility, nutrition, body composition, weight control, muscle movements, and fitness testing.

Physical Education Electives - .5 credit each
Semester - Grade 11 and grade 12

Note: Juniors and seniors are required to select one of the following courses. Students may not register for more than one PE elective per year, or take the same course twice.

0863 - Strength Training

Description: Strength training is a combination of weight training and cardiovascular fitness activities. This course will focus mainly on the following topics: health and skill-related components of fitness, weight training, cardiovascular fitness, body composition, and principles of fitness. The benefits of exercise and its effect on the systems of the body will be introduced. The primary objectives of this course are to improve the health-related components of fitness and to introduce the student to the concepts of fitness program design and application. This semester long course meets every day in the weight room. **(this course will not be offered 2012-13)**

0864 - Advanced Physical Education

Description: The focus and emphasis of Advanced Physical Education will be placed on game and practice strategies, advanced skills, competitive game-play, and maximum team interaction. Students will be held to a higher standard of the fitness components and expected to strive for the highest level of achievement. Activities will include non-typical team and individual sports that require complex skills. Units will include softball, throwing and dodging, lacrosse, tchoukball, volleyball, team handball, and floor hockey. Students must have a Physical Education Teacher's approval to take the course.

0865 - Team Sports

Description: Team Sports will incorporate the health and skill related components of fitness into team activities. The focus would be on developing and practicing skills, learning game strategies and working on teamwork. The objectives of this course will focus on team communication and cooperation, as well as the physical and social benefits of participating in the sports. Units will include football, ultimate Frisbee, soccer, broomball, speedball, and basketball.

0866 - Personal Fitness

Description: Personal Fitness will focus on individual workout plans. Activities will focus on stress reduction, flexibility, balance, muscular strength and muscular endurance. Emphasis will be placed on participating in enjoyable activities that can be practiced throughout a lifetime. The class will explore multiple methods of strength training and working out in a non-weight room setting using equipment such as medicine balls, body bards, exercise balls and resistance bands. Activities will include yoga, power yoga, fitness walking, Pilates, kickboxing and Taebo. **(this course will not be offered 2012-13)**

0867 - Lifetime Activities

Description: Lifetime activities will focus on students learning activities that can be enjoyed throughout a lifetime. These activities are considered lifetime because they are more recreational in nature and can be enjoyed at many ages and skill levels. The activities require minimal equipment and can be enjoyed in small groups or individually. The focus of this course will be on the benefits of lifelong wellness and physical activity, how to choose activities you prefer, and social interaction through physical activity. The class will also look at how your body reacts to different types of moderate and vigorous physical activity as you grow and age. Units will include golf, Frisbee golf, fitness walking, fitness sports, yard games, archer, bowling, and shuffleboard.

0868 - Individual/Dual Sports

Description: Individual and dual sports will focus on racquet and net games that are played in singles or with a partner. The emphasis will be on developing skill progression in tennis, badminton, pickle ball, modified racquetball, and other mixed activities. Subject matter will include skill analysis of performance, game play, rules, and strategies while working individually or with a partner. Units will include badminton, pickleball, tennis, speedminton, table tennis, eclipse volleyball, and racquetball.

0869 - Aerobics/Dance

Description: The aerobics/dance course will provide the students with the opportunity to learn basic aerobics routines and movements. This course will also expose the students to basic movement and rhythm principles through international dances, such as country line dances, dancing through the ages, ballroom dances, international dances, Zumba, and square dances. Students will also explore basic tumbling and gymnastic techniques. Students will evaluate the fitness concepts of the activities. The focus of this course will be to provide movement and exercise through less competitive activities and will stress flexibility, balance, group cooperation and muscular endurance.

FAMILY AND CONSUMER SCIENCES

Family and Consumer Science (FACS) courses are designed to strengthen the individual and family. Skills taught which encompass these goals are: consumer skills for both food and household goods, nutrition, and cooking skills, self-esteem, decision making and communication skills, child development theory and guidance, and fashion for the individual and home. State and National Standards are the center of our curriculum and in many instances are only covered in Family And Consumer Sciences.

Tools for Healthy Living - .5 credit

0500 - Semester - Grade 9

0501 – Semester – Grade 10, 11, 12

How do I make life's major decisions? What are effective methods of communication? How do I select and prepare nutritious foods? How do I manage my resources including managing money? What consumer skills can help me achieve the most value for my dollar? Take "Tools for Healthy Living", and learn answers to these life-impacting questions. This course will fulfill a major portion of the Pennsylvania Department of Education Family and Consumer Sciences standards. **An \$10 lab fee will be collected during the first two weeks of the course to help cover project costs.**

0503 - Culinary Arts I - 1 credit

Year - Grade 10, 11, 12

The emphasis of this course is consumer competence and food preparation skills involved with the application of a variety of foods. Units studied include: fruits and vegetables, poultry, legumes and nuts, quick breads and cookies, grains and pasta, soups, dairy products, egg cookery, cakes, food purchasing and technology, meal appeal and nutrition basics. Students will combine classroom instruction with a wide variety of food laboratory experiences. An introductory unit emphasizing safety in use of equipment and handling of food as well as application of basic lab skills will set the groundwork for all food laboratories. Special projects include cake decoration, student reports and demonstrations. There are no prerequisites for this course, but Tools for Healthy Living is highly recommended. If a student has taken "Tools for Healthy Living", a 70% minimum average must have been achieved. **A \$20 lab fee will be collected during the first two weeks of the course to help cover project costs.**

0504 - Culinary Arts II – 1 credit

Year - Grade 11, 12

Prerequisite: 70% average in Culinary Arts I

This course expands the basic food preparation skills and techniques learned in Culinary Arts I to a more advanced level through a blend of classroom instruction, teacher demonstrations and laboratory experiences. Emphasis will be on fine-tuning cooking skills and food presentation. Units studied the first half of the year include: pastries, seafood, meats, yeast breads, gingerbread crafts and American regional cuisine. During the second half of the year, students will study and prepare international cuisine. This course is designed for students with a serious interest in food-related careers, or anyone truly interested in the art of food preparation. **A \$20 lab fee will be collected during the first two weeks of the course to help cover project costs.**

0508 – Teaching of the Preschool Child - .5 credit

Semester - Grade 10, 11, 12

Prerequisite: B- average in Child Development

This course is designed to help students better understand the preschool child. Class sessions will be used for theory and instruction, preparing instructional material, discussion of individual child observations and evaluation. This class is recommended for students who are interested in pursuing a

career in early childhood education, elementary education, day care or related fields dealing with children.

Contemporary Fashions I - .5 credit

0510 - Semester - Grade 9

0511 - Semester - Grade 10, 11, 12

Students interested in fashion will be given the opportunity to explore past fashions and their effect on one's present clothing selections. Designed for beginners, the class will introduce sewing skills and techniques that will enable students to complete projects suitable to meet personal needs and tastes. Contemporary Fashions I is recommended for any student interested in developing personal sewing skills or pursuing a career in textiles fashion design or interior design. All fabric used by the student will be purchased by the student.

Child Development - .5 credit

0514 - Semester - Grade 9

0515 – Semester – Grade 10, 11, 12

This course provides an in-depth study of the child from the prenatal period through six years of age. Special emphasis is placed on the following: pregnancy, genetics and birth defects, infant care, behavior and guidance of the toddler and preschooler and child safety and nutrition. The class is highly recommended for students who are pursuing a career in early childhood education, elementary education, day care, or in related fields. The course is also very valuable if the student plans to someday become a parent.

0516 - Choices - 1 credit

Year - Grade 10, 11, 12

With a practical approach to adjusting and living in the 21st century, this course focuses on studying contemporary lifestyles and skills needed to strengthen self and families. Discussion groups, lectures, films, videos, guest speakers and current journal articles will aid the student to arrive at solutions to problems which will prepare them for adulthood and beyond. Topics covered include identity and self-esteem, problem-solving techniques, communication skills, interpersonal relationships, dating, marriage, human sexuality, family planning, parenting, family dynamics, divorce, violence in the home, substance abuse and aging. A special project on financial management will be included.

0517 - Housing and Interior Design - .5 credit

Semester - Grade 10, 11, 12

Students are introduced to the current trends in housing and home decorating through classroom activities and actual on-site observations. Included in the course will be the study of housing choices: renting and buying, housing styles, buying and financing a home, as well as furniture arrangement, drawing house plans, color and design principles. This is an excellent course for students interested in careers involving Real Estate, Building and Construction, Architecture and Interior Design.

GIFTED PROGRAMMING

The Warwick High School Gifted Program, **DIRECTIONS**, allows for the unique diversity and range of talents that students have begun to develop by the high school level. Academically, there are challenges

in all grade levels in all disciplines. Additionally, the **DIRECTIONS** program presents a number of enrichment and career exploration opportunities.

- Secondary Enrichment Experience (SEE), a series of one-day, hands-on enrichment activities exploring topics that range from archaeology and criminal investigation techniques to history, journalism, math, the sciences, and the arts.
- Lunch-time seminars on a variety of topics. Students can explore options for now and post-high school.
- Independent study options through the Advanced Seminar course.
- Study skills and organization seminars.
- Reading groups and career-oriented clubs
- Academic competitions, including Quiz Bowl, KMO, JETS, Science Olympics, and Mock Trial.
- Opportunities to connect with intellectual peers.

The DIRECTIONS program is designed to allow students the opportunity to explore all the “directions” in which they wish to go.

0255 - Advanced Seminar – .5 or 1 credit (weighted course)

Semester or Year - Grade 10, 11, 12

Prerequisite: Identified gifted or teacher approval

In this course, students will participate in a variety of long-term projects of their own design. Students will develop team-oriented or individual projects, which may include but are not limited to National History Day, Scholastic Writing, academic Olympiads and other competitions.

Students will be involved in individualized learning. A high level of commitment to individualized work is necessary. Accelerated study is also possible with instructor approval. Students work closely with the instructor to develop rigorous goals, a realistic timeline, and an in-depth final product. Students must also complete additional reading and writing requirements. In class discussions or current events, science, philosophy and literature are required. Students enrolled in this course must demonstrate a high level of self-directed learning and active participation to produce high-quality work.

0256- Advanced Seminar 9 - .5 credit

Semester- Grade 9

Prerequisite: Identified gifted or teacher approval

This course is a continuation of topics examined in EXTEND. Students will require a clear understanding of giftedness, examine and develop leadership qualities, and complete career exploration as part of individual and team oriented projects. Metacognitive journaling, and a culminating major project are required, as well as outside reading and subsequent presentations.

LANGUAGE ARTS

English 9 – 1 credit

Year - Grade 9

0011 – Level 1

0012 – Level 2

0013 – Level 3

Ninth-grade English emphasizes the study of literature and grammar. Students write paragraphs and essays based on personal experience, creative assignments, and the concepts and themes discussed in

class. Vocabulary study occurs weekly with many words taken from the literature studied. Literature selections are varied, but all students read at least two novels in depth as well as study a variety of short stories.

English 10 – 1 credit

Year - Grade 10

0021 – Level 1 0022 – Level 2 0023 – Level 3

Prerequisite: Successful completion of English 9 or administrative approval in special circumstances.

All tenth grade English students continue to develop reading, writing, thinking, speaking, and listening skills through the study of various literary forms: short stories, essays, plays, poems, and novels. The course builds on skills learned in ninth grade so that students are prepared to write in the expository and persuasive modes in paragraphs, multi-paragraph essays, and research papers. To help students understand and use words effectively, the course will follow a systematic approach to vocabulary study.

English 11 – 1 credit

Year - Grade 11

0031 – Level 1 0032 – Level 2 0033 – Level 3

Prerequisite: Successful completion of English 10 or administrative approval in special circumstances.

All levels of eleventh-grade English will emphasize the study of American literature through short stories, essays, novels, poems, and plays. Oral presentations and research work are also parts of the curriculum. Instruction in how to write effectively continues, as well as weekly vocabulary study.

In levels 1 and 2 the purpose is to prepare college-bound juniors for the reading, writing, and critical thinking necessary for undergraduate work. Emphasis in writing instruction will be on multi-paragraph compositions. Students will be required to complete involved research work, and vocabulary study will focus on preparing students for the SAT 1.

0030 - Honors English 11 – 1 credit (Weighted Course)

Year - Grade 11

Prerequisite: A- average or better in level 1, English 10 and recommendation of tenth grade English teacher.

The purpose of the Honors English 11 elective is identical to the purpose of Levels 1 and 2: to prepare college-bound juniors for the reading, writing, and critical thinking necessary for college work. Students electing this course should expect, however, a more rigorous course of study of a wider range and a greater depth than the Levels 1 and 2 curriculums. For this reason, time management is essential. The course will build a sound academic base of knowledge and concepts in literature and language. The course will emphasize American literature, and students will frequently work independently. Students will write extensively with specific concentration on multi-paragraph papers; many tests will be in essay form. This course will also provide opportunities for oral presentations and creative endeavors. Students will have systematic vocabulary study to expand personal vocabulary and to prepare for the SAT 1. Overall, honors students should be self-motivated and take pleasure in intellectual activity.

English 12 – 1 credit

Year - Grade 12

0041 – Level 1 0042 – Level 2 0043 – Level 3

Prerequisite: Successful completion of English 11 or administrative approval in special circumstances.

The objective of twelfth-grade English is to advance students' critical thinking and communication skills through the integration of literature, writing, and language study. The primary emphasis will be on the study of British literature and analytical writing. In addition to completing a research project, students will make oral presentations and continue regular vocabulary study. By the end of the course, students should have the language arts skills they need to continue their education or pursue other endeavors.

0040 - AP English 12 - 1 credit (Weighted Course)

Year - Grade 12

Prerequisite: B+ or better in Honors English 11 or A- in level 1 English 11 along with recommendation of eleventh grade English teacher and a willingness to read and write extensively.

A rigorous course of thinking, reading, and writing, AP English 12 will develop a student's understanding and appreciation of language and literature. Students will critically analyze and discuss challenging works from Western culture, particularly British literature. They will also write extensively in a variety of forms and periodically assess their own development. The curriculum also includes outside readings and a fully documented research paper on a literary topic. After taking Honors English 11 and AP English 12, students should be prepared to take the Advanced Placement Test in English if they so desire. A student interested in this course should be an active reader and a skilled writer.

0051 - Speech 1 - .5 credit

Semester - Grade 9, 10, 11, 12

The purpose of Speech I is to enable students to speak effectively in both formal and informal settings. The first few weeks of the course will focus on the fundamentals of communication, including verbal and nonverbal cues. Students will learn to overcome stage fright and to analyze their audiences. The course will also address the logical development of ideas and speech delivery. Following instruction on how to write a speech, students will deliver various presentations from the following: a personal experience speech, a demonstration speech, a speech to inform, a persuasive speech, a speech to entertain, and an impromptu speech. At the conclusion of the course, students should feel confident in planning, preparing and presenting speeches for a variety of purposes and in a variety of speaking situations.

0052 – Speech 2 - .5 credit

Semester – Grade 9, 10, 11, 12

Prerequisite: C or better in Speech 1

The purpose of Speech 2 is to reinforce the concepts taught in Speech 1 and to develop more confidence in preparing, planning, & presenting speeches for a variety of purposes in a variety of speaking situations. Speech 2 will also emphasize the principles of debate.

0053 – Creative Writing - .5 credit

Semester - Grade 10, 11, 12

This elective is designed for the students who wish to experience writing as a form of artistic self-expression. Students will learn to write about their ideas, impressions, feelings and beliefs through various forms and styles of poetry, short stories, drama, and descriptive writing. The objectives of this course are to encourage students to develop originality in thought and writing and to develop a deeper awareness of themselves both emotionally and intellectually.

0054 – Drama - .5 credit

Semester - Grade 9, 10, 11, 12

This elective is designed to provide an overall background for the student interested in theater. The course will focus on the history and development of the theater, appreciation and interpretation of the drama, and practical performance aspects of theater production. Students will engage in scene study and performance with other members of the class. Thus, the goal of the course is twofold: that the students gain academic knowledge and practical performance experience.

0055 - Journalism I – 1 credit

Year - Grade 9, 10, 11, 12

This course is for students who want to improve and refine their writing skills. Students will examine and apply the basic tenets of print journalism. Students will observe different styles of articles in newspapers and apply those styles to their work. In addition, students will learn In-Design, a software program used to create newspapers. Students will produce an article every week. Students will create monthly updates for the Lititz Record Express. Students are responsible for creating the student newspaper. Student must meet strict deadlines.

0050 - Journalism II – 1 credit

Year – Grade 10, 11, 12

Prerequisite: A final grade of B- or better in Journalism I

This elective course is for students interested in expanding their skills in journalism. Students are responsible for editing and producing the school newspaper. Students will continue to improve writing and information gathering skills. Additional topics may include feature writing, advertising and sales, and broadcast journalism. Students may assume leadership positions for the school newspaper.

0059 – Journalism III – 1 credit

Year – Grade 11, 12

Prerequisite: A final grade of B- or better in Journalism II

Students who complete Journalism II with a grade of B or better are eligible to continue journalistic studies in Journalism III.

0056 - Writing Skills - .5 credit

Semester - Grade 9, 10, 11, 12

The purpose of the Writing Skills elective is to concentrate on the basic writing process with focus on expository and persuasive essays. The course emphasizes the composition of coherent essays and the mastery of grammar techniques as related to writing. In addition, students will use a variety of sentences and points of style to make their writing more interesting. This course provides an opportunity for students to improve writing skills that are important in high school, college, and on the job. It will also help prepare students for standardized tests such as the PSSA, SAT, and ACT.

0057 - Advanced Composition – .5 credit (Weighted Course)

Semester - Grade 11, 12

Are you interested in furthering your education after high school? If so, the Advanced Composition Course will be especially helpful for you. Students will write at least once a week, and the instructor will

individually discuss each student's paper with that student. The class will also review grammar points as these points apply to writing. For that extra preparation you will need for school after high school, elect this course.

0002- Broadcasting - .5 credit
Semester - Grade 9, 10, 11, 12

The purpose of this course is to introduce students to the equipment, techniques and theory for producing television segments. Students will read information, practice usage and watch examples of video and film production. Students will work in groups and independently. Students will learn camera operation, editing on computers, the rules of video production, story production, animation and studio operations.

0003 - Advanced Broadcasting I - .5 credit
Semester - Grade 9, 10, 11, 12

Prerequisite: A final grade of B- or better in Broadcasting

The focus of this course is to increase knowledge, ability and implementation of broadcast television techniques. Students will explore advanced concepts in production design, lighting, editing, shooting, script development, effects, sound and music. Students will produce the morning announcements and monthly cable broadcasts. This course has strict deadline structure. Students will produce one full length feature each month and will work on independent projects. This class requires taping after school. Students are required to arrive at the TV studio at 7:40 am daily in order to prepare for the Warwick Report Morning Show.

0004- Advanced Broadcasting II - .5 credit
Semester – Grade 10, 11, 12

Prerequisite: A final grade of B- or better in Advanced Broadcasting I.

Students who complete Advanced Broadcasting I with a grade of B or better are eligible to continue their studies in Advanced Broadcasting II (0004). Projects will become more sophisticated and complex with each semester completed. This class requires taping after school. Students are required to arrive at the TV studio at 7:40 am daily in order to prepare for the Warwick Report Morning Show.

0920 – English 100 - 1 credit

Year

Placement based on English language proficiency

This course is for students whose first language is not English and who are either non-English proficient or are at the beginning level of English proficiency. Students do activities to develop their listening, speaking and reading skills in English. The course focuses on basic vocabulary building, understanding the basics of English grammar, and reading comprehension. Tasks include talking about life experiences (school, work, family, and native culture), reading and discussing a variety of literary forms, and doing oral presentations. The emphasis is on Basic Interpersonal Communication Skills. This course may be taken concurrently with English 101.

0921 – English 101 - 1 credit

Year

Placement based on English language proficiency

This course is for students whose first language is not English and who are either non-English proficient or are at the beginning level of English proficiency. Students do activities to develop their writing ability in English. Activities include vocabulary building, writing regularly in a journal, using the writing process, and doing research on limited topics. Students will work on writing well-structured paragraphs. The emphasis is on basic interpersonal communication skills. This course may be taken concurrently with English 100.

0922 – English 200 - 1 credit

Year

Placement based on English language proficiency

This course is for students whose first language is not English and who are at the intermediate level of English proficiency. Students do activities to improve their listening, speaking, and reading skills in English. The focus is on building academic and specialized vocabulary, understanding English grammar, and developing reading strategies for enhanced reading comprehension. Tasks include discussion on a variety of topics, reading and analyzing a variety of literary forms, and doing oral presentations. The emphasis moves from basic interpersonal communication skills to developing cognitive academic language proficiency. This course may be taken concurrently with English 101.

0923 – English 201 - 1 credit

Year

Placement based on English language proficiency

This course is for students whose first language is not English and who are at the intermediate level of English proficiency. Students do activities to improve their writing ability in English. Activities include academic vocabulary building, writing regularly in a journal, using the writing process, and doing some research. Students will write in a variety of forms for different purposes. The emphasis is on cognitive academic language proficiency. This course may be taken concurrently with English 200.

0924 – English 300 – 1 credit

Year

Placement based on English language proficiency

This course is for students whose first language is not English and who are at the advanced level of English proficiency. The focus is on perfecting the four skills areas: listening, speaking, reading, and writing. Discussions and oral presentations will develop listening and speaking skills. Vocabulary study will expand both receptive and expressive vocabulary. Writing will focus on producing well-organized essays including research papers and some creative writing. This course is to be taken concurrently with another English class. **** Other ESL courses are available depending on student needs. ****

WORLD LANGUAGES

0061 - French I – 1 credit

Year - Grade 9, 10, 11, 12

Prerequisite: C average in English

The primary objective of the French program is to enable students eventually to function within a French culture. Students will be expected to participate in simulated real-life situations, group work, and

conversational activities. Daily home study will be necessary to reinforce skills introduced in class. Cultural and informational topics to be covered include the acquisition of food, school and home settings, festivals, and life in villages and towns.

0062 - French II – 1 credit

Year - Grade 9, 10, 11, 12

Prerequisite: C average in French I

French II is a continuation of the objectives of French I. Functions studied this year include describing yourself and others, welcoming someone into your home, making purchases, asking for information, expressing concern for someone, etc. The vocabulary studied includes some clothing and travel, furniture and rooms, stores and products, activities, body parts, illnesses, aches, pain and injuries, etc.

0063 - French III – 1 credit

Year - Grade 9, 10, 11, 12

Prerequisite: C average in French II

French III is a continuation of French I and II. Functions studied include greetings, expressing likes and dislikes, asking for and giving information and directions, asking for and expressing opinions, making suggestions and excuses, making plans, etc. The vocabulary studied includes items on a French menu, gas station vocabulary, household chores, personal and social responsibilities, clothing and styles, hair and hairstyles, future choices and plans, careers, etc.

0064 - French IV - 1 credit (Weighted Course)

Year - Grade 10, 11, 12

Prerequisite: C average in French III

The essence of French IV is the famous literary classic by Victor Hugo, *Notre-Dame de Paris*. Using *Notre-Dame de Paris* as a basis for vocabulary study, students will be learning more than 500 new words in the course of the year. Students will also practice listening skills while working on exercises based on the songs from the musical *Notre-Dame de Paris*. Students will be reviewing all the verb tenses and verb moods learned in previous years and, in addition, students will be taught new verb tenses such as *le plus-que-parfait*, *le future antérieur* and *le conditionnel passé*. Culture will be taught throughout the year and current events will be discussed. Class will be primarily conducted in French and students will be expected to communicate in the target language.

0065 - French V - 1 Credit (Weighted Course)

Year - Grade 11, 12

Prerequisite: C average in French IV

In French V, students will read the classic nineteenth century novel by Alexandre Dumas, *Le Comte de Monte-Cristo*. Reading will be mostly done independently and at home. More than 500 new vocabulary words will accompany the reading of the novel. This course will also focus on culture and art, therefore, students will be learning about the French impressionist painters Degas, Manet, Monet, Renoir and several others. Vocabulary for art appreciation will also be taught. Several other cultural units will be presented and students will be asked to discuss and write about what they have learned as well as share their reaction to various articles, movies, etc. Grammar will be reviewed and practiced in their writing.

0071 - German I - 1 credit

Year - Grade 9, 10, 11, 12

Prerequisite: C average in English

This course is an introduction to the German language and culture. It is designed to develop some proficiency in comprehending, speaking, reading and writing. Students will work together to practice the language in class and will study the structure of the language. The focus will be on communicating personal information and dealing with everyday life. The cultures of Germany, Austria and Switzerland will be featured.

0072 - German II – 1 credit

Year - Grade 9, 10, 11, 12

Prerequisite: C average in German I

Second year German is a continuation of first-year German. Stress on the four basic skills of listening, speaking, reading and writing will be continued. There will be more emphasis on communicating in German and using more complicated sentences. Practical language and student interaction will be featured, along with continued information on Germanic culture. Students will be able to “survive” in a German speaking culture, ordering meals and getting directions.

0073 - German III – 1 credit

Year - Grade 9, 10, 11, 12

Prerequisite: C average in German II

Third year German continues to develop oral and written proficiency. Students will use the language for general conversation and will read longer passages from the text and from reading. Larger projects such as TV programs and/or newspaper articles will be required. Special attention will be given to the differences and similarities between daily life and attitudes in Europe and America. At the end of German III, students will be qualified to travel abroad with Warwick's exchange program to Bavaria. Participation in the exchange program can earn students an additional .5 credit.

0074 - German IV - 1 credit (Weighted Course)

Year - Grade 10, 11, 12

Prerequisite: C average in German III

This course is designed to put to use all prior knowledge of German and to finish the study of German grammar. There will be emphasis on German scientists, writers and musicians with group discussion and composition in German. A featured unit will be on the Pennsylvania Germans with a field trip to local historical sights and practice with the local dialect. The course is intended to provide the student with an adequate background for college and a working ability to use German on an educated level. Careers using German and the German workplace will be discussed at length. Field study is available through the German-American Partnership Program and can earn students an additional .5 credit.

0075 - German V - 1 credit (Weighted Course)

Year - Grade 11, 12

Prerequisite: C average in German IV

German V is for the student who intends to pursue German study in college or abroad. Students will be expected to present creative projects and work independently on extended research topics. Students' classroom activities will include working with German IV students, sometimes leading discussion, and reviewing more complex language structures. Individual student needs can be addressed through projects geared toward the student's future plans.

0091 - Spanish I - 1 credit

Year - Grade 9, 10, 11, 12

Prerequisite: C average in English

The primary objective of the Spanish program is to enable students eventually to function within a Hispanic culture. Students will be expected to participate in simulated real-life situations, group work, and conversational activities. Daily home study will be necessary to reinforce skills introduced in class. Cultural and informational topics to be covered include meeting and greeting people, the acquisition of food, school and home settings, personal possessions, finding one's way around town, and planning activities.

0092 - Spanish II - 1 credit

Year - Grade 9, 10, 11, 12

Prerequisite: C average in Spanish I

Spanish II is a continuation of the objectives of Spanish I. Functions studied this year include: improving conversation skills in Spanish as well as receiving an introduction to the culture of the Hispanic world. Cultural and informational topics include discussing events in the past, present and future, giving and receiving directions for using various means of transportation, expressing likes and dislikes, making and negotiating purchases, and giving orders.

0093 - Spanish III - 1 credit

Year - Grade 9, 10, 11, 12

Prerequisite: C average in Spanish II

This course will expand on the reading, writing, speaking, listening, and cultural skills acquired in Spanish I and II. Students will participate in various activities designed to improve language proficiency. Students will be exposed to brief literary works and authentic conversation in the following contexts: weather, characteristics and conditions, travel accommodations, daily plans and activities, and relating to past experiences.

0094 - Spanish IV - 1 credit (Weighted Course)

Year - Grade 10, 11, 12

Prerequisite: C average in Spanish III

This course is designed to put to use all prior knowledge of Spanish. There will be emphasis on conversation, composition, reading and listening skills. Class is conducted primarily in Spanish and students will be expected to speak in Spanish.

0095 - Spanish V - 1 credit (Weighted Course)

Year - Grade 11, 12

Prerequisite: C average in Spanish IV

Spanish V is an advanced course designed for students with a keen interest in the Spanish language and culture. Students will put to use all prior knowledge of Spanish. They will read short stories and improve conversational as well as writing skills. Students will study several regions of historical importance, artists, and potentially qualify to take the AP Spanish Grammar exam in May.

MATHEMATICS

The Mathematics Department recommends the student follow one of these course sequences in preparation for post-secondary challenges. Each sequence is designed to adequately prepare students for college/job placement tests, SAT's, AP Exams, and/or PSSA's.

Grade 8	Pre-Algebra or Fundamentals of Algebra and Geometry
Grade 9	Essentials of Algebra I
Grade 10	Essentials of Geometry
Grade 11	Essentials of Algebra II
Grade 12	Algebra III/Trigonometry

Grade 8	Fundamentals of Algebra & Geometry
Grade 9	Algebra I
Grade 10	Plane Geometry or Advanced Plane Geometry
Grade 11	Algebra II or Advanced Algebra II
Grade 12	Trigonometry and Pre-Calculus or Statistics elective

Note: If students enroll in both Algebra II and Geometry in grade 10, they may take Trigonometry and Pre-Calculus in grade 11, then Calculus in grade 12.

Grade 8	Algebra I
Grade 9	Plane Geometry or Advanced Plane Geometry
Grade 10	Algebra II or Advanced Algebra II
Grade 11	Trigonometry and Pre-Calculus and/or Statistics elective
Grade 12	Calculus and AP Calculus AB and/or Statistics elective

Grade 8	Plane Geometry
Grade 9	Algebra II or Advanced Algebra II
Grade 10	Trigonometry and Pre-Calculus and/or Statistics elective
Grade 11	Calculus and AP Calculus AB and/or Statistics elective
Grade 12	AP Calculus BC and/or Statistics elective

Course Descriptions can be found on the next few pages of the catalog.

Prerequisites have been given to set the minimum level of achievement the student must attain in order to enroll in the class.

Departmental Recommendations have been given to help guide the student to the class where he/she is most likely to experience the highest level of success.

Electronic technologies – calculators and computers – are essential tools for teaching, learning, and doing mathematics. They furnish visual images of mathematical ideas, they facilitate organizing and analyzing data, and they compute efficiently and accurately. They can support investigation by students in every area of mathematics, including geometry, statistics, algebra, measurement, and number. When technological tools are available, students can focus on decision making, reflection, reasoning, and problem solving.” (Principles and Standards for School Mathematics. Reston, VA: National Council of Teachers of Mathematics, 2000).

Because of the increased emphasis on technology in problem solving, the Warwick Mathematics Department requires that each student have access to his or her own calculator for many class work and homework assignments, as well as most tests.

The following chart lists the minimum recommendation for each course:

Mathematics Course	Type of Calculator	Example
Essentials of Algebra I	Scientific	TI-34, TI-36
Algebra I	Scientific	TI-34, TI-36
Essentials of Algebra II	Scientific	TI-34, TI-36
Algebra II	Graphing	TI-83, TI-84
Advanced Algebra II	Graphing	TI-83, TI-84
Algebra III/Trigonometry	Graphing	TI-83, TI-84
Essentials of Geometry	Scientific	TI-34, TI-36
Plane Geometry	Scientific (Trig component)	TI-34, TI-36
Advanced Plane Geometry	Scientific	TI-34, TI-36
Trigonometry	Graphing	TI-83,84
Probability and Statistics	Graphing	TI-83,84
Advanced Probability and Statistics	Graphing	TI-83,84
Pre-Calculus	Graphing	TI-83,84
Calculus	Graphing	TI-83,84
AP Calculus AB	Graphing	TI-83,84
AP Calculus BC	Graphing	TI-83,84

0310 – Essentials of Algebra - 1 credit

Year - Grade 9, 10, 11

Prerequisite: Completion of Eighth grade Mathematics

Departmental Recommendation: C- in Eighth Grade Pre-Algebra or
D+ in Eighth Grade Fundamentals of Algebra & Geometry or
C- in Foundations of Algebra and Geometry

This course is designed to present algebraic concepts to students in preparation for further education. Topics include proportional reasoning, solving equations, and solving and graphing linear equations. A scientific calculator is required.

0315 - Algebra I - 1 credit

Year - Grade 9, 10, 11, 12

Prerequisite: C- in Foundations of Algebra & Geometry

Departmental Recommendation: A- in Eighth Grade Pre-Algebra or
B- in Foundations of Algebra & Geometry or
A- Essentials of Algebra I

For those students interested in pursuing the academic curriculum in mathematics, this course will provide the basic study of concepts that are needed in sequential mathematics courses. Emphasis is placed on the fundamental ideas of equalities and inequalities, solving of equations with one or two variables, expanding and factoring polynomials, and graphing and evaluating linear equations. The course stresses applications of these concepts with problem solving. Good reasoning and arithmetic concepts are emphasized. A scientific calculator is required.

0318 – Essentials of Algebra II - 1 credit

Year - Grade 11, 12

Prerequisite: Successful completion of Essentials of Algebra I, or Algebra I, and Essentials of Geometry or Plane Geometry

This course is offered to students who want to continue to study the basic concepts of Algebra I or Essentials of Alg. I. The purpose of this course is to expand and advance the Algebra I concepts in preparation for further education. Topics include systems of equations and inequalities, polynomials, quadratic and exponential functions, and radical expressions. A scientific calculator is required.

0317 - Algebra II - 1 credit

Year - Grade 9, 10, 11, 12

Prerequisite: D in Algebra I

Successful completion of Essentials of Geometry or Plane Geometry

Departmental Recommendation: C- in Algebra I and successful completion of Essentials of Geometry or Plane Geometry

This academic course provides the student with the necessary background needed to further pursue other mathematics courses in the curriculum. The course extends the concepts of Algebra I to a higher level of comprehension. Topics include the exploration of lines and functions, the properties of radical complex numbers, polynomial and rational functions, systems of equations, basic logarithms, sequences and series, and matrices. Basic concepts of probability and statistics are also introduced. Problems will continue to connect algebraic concepts to real-life applications. A TI-83 or TI-84 graphing calculator is required.

0316 - Advanced Algebra II - 1 credit (Weighted Course)

Year - Grade 9, 10, 11

Prerequisite: A average in Algebra I and C average in Advanced Plane Geometry or a B average in Plane Geometry

Departmental Recommendation: A in Algebra I and A in Plane Geometry or B in Advanced Plane Geometry

This course is an intensified study of the topics included in the Regular Algebra II course. Although the pace of the course is not accelerated, the topics are discussed in more depth. The students will acquire a deeper understanding of the mathematical concepts included in an Algebra II curriculum and will develop stronger problem solving techniques and critical thinking skills. This course will also better prepare students for the more advanced mathematics and science courses that they may choose later in their high school years. A TI-83 or TI-84 graphing calculator is required.

0313 - Algebra III/Trigonometry - 1 credit

Year - Grade 11, 12

Prerequisite: Essentials of Algebra II or Algebra II

Departmental Recommendation: C- in Essentials of Algebra II

Students in this class have a strong math background and have completed Algebra II. This course will prepare the student for post-graduate study in 4-year college programs, trade schools, technical schools, community colleges, and nursing programs. The topics covered include quadratic equations, rational expressions, irrational and complex numbers, logarithms, and trigonometry. Problems will connect algebraic concepts to real-life situations. The trigonometry component of this course meets the trig pre-requisite for Pre-Calculus. A graphing TI-83 or TI-84 calculator is required.

0314 - Algebra III/Trigonometry - 1 credit

Year - Grade 11, 12

Prerequisite: Essentials of Algebra II or Algebra II

Departmental Recommendation: C- in Essentials of Algebra II

Students in this course have had Essentials of Algebra II or may have struggled in Algebra II. This course will prepare the student for post-graduate study in 4-year college programs, trade schools, technical schools, community colleges, and nursing programs. The topics covered include quadratic equations, rational expressions, irrational and complex numbers, logarithms, and trigonometry. Problems will connect algebraic concepts to real-life situations. The trigonometry component of this course meets the trig pre-requisite for Pre-Calculus. A graphing TI-83 or TI-84 calculator is required.

0320 – Essentials of Geometry - 1 credit

Year - Grade 10, 11, 12

Prerequisite: successful completion of Algebra 1 or Essentials of Algebra I

Departmental Recommendation: C- in Essentials of Algebra I
D in Algebra I

This course in geometry stresses the concepts of properties of figures such as triangles, parallelograms, squares, circles, and their relationship to one another. The emphasis in this course is on a gradual and thorough approach to integrating geometric and algebraic concepts. Logical reasoning is taught through simple proofs. Much of the information presented in this course will be applied to careers that depend upon the understanding of geometric concepts. A scientific calculator is required.

0325 - Plane Geometry - 1 credit

Year - Grade 9, 10, 11, 12

Prerequisite: successful completion of Algebra I or Essentials of Algebra I

Departmental Recommendation: A- average in Essentials of Algebra I
C- average in Algebra I

This academic course studies the properties of figures such as triangles, parallelograms, squares, circles and their relationship to one another. Students will apply the algebra they have learned in this course. Inductive and deductive reasoning are also stressed. This course is part of the mathematical sequence required by most colleges. A scientific calculator is required.

0326 - Advanced Plane Geometry – 1 credit (Weighted Course)

Year – Grade 9, 10

Prerequisite: B average in Algebra I

Departmental Recommendation: A average in Algebra 1

This course is designed for those ninth or tenth graders who have excelled in Algebra I. Students will study the properties of figures such as triangles, parallelograms, squares, and circles as they would in Plane Geometry. In addition, two-column proofs, applications of geometric concepts, and problem solving will be given greater emphasis than in Plane Geometry. Technology will be used as a tool to build and investigate figures and diagrams. A scientific calculator is required.

0340 - Trigonometry - .5 credit (Weighted Course)

This course will be offered both semesters - Grade 9, 10, 11, 12

Prerequisite: C- in Algebra II and completion of Plane Geometry OR enrollment in Advanced Algebra II

This academic course unifies the algebraic and geometric concepts into an organized mathematical system. The topics covered will include right triangle trigonometry, Cartesian plane trigonometry (with an emphasis on the Unit Circle), solving trig equations, proving trig identities, graphing trig functions and oblique triangle trigonometry. A graphic calculator is required.

0341 - Trigonometry - .5 credit (Weighted Course)

This course will be offered both semesters - Grade 9, 10, 11, 12

Prerequisite: C- in Algebra II and completion of Plane Geometry OR B in Algebra I and B in Plane Geometry and enrollment in regular Algebra II

This academic course unifies the algebraic and geometric concepts into an organized mathematical system. The topics covered will include right triangle trigonometry, Cartesian plane trigonometry (with an emphasis on the Unit Circle), solving trig equations, proving trig identities, graphing trig functions and oblique triangle trigonometry. A graphic calculator is required.

0375 - Probability and Statistics - .5 credit (Weighted Course)

Semester - Grade 10, 11, 12

Prerequisite: C- in Algebra II

This academic course will deal with the fundamental concepts of probability such as principles of counting, events, and conditional probability. Statistical topics of handling data collection and organization and analyzing data will be addressed. This course is recommended for students who plan to enter fields such as biology, business, economics, education, engineering, mathematics, medicine, psychology or sociology. A TI-83 or TI-84 graphing calculator is required.

0377 – AP Probability & Statistics - 1 credit (Weighted course)

Year – Grade 11, 12

Prerequisite: B+ average in Algebra II

In this course, students will study topics covered in Prob. & Stat., as well as binomial and normal distributions. Other topics, such as statistical methods which can be used to determine confidence intervals and significance levels, and examination of hypothesis testing will also be addressed with an emphasis on application. This course will give students the necessary background to take the Advanced Placement Statistics Examination. A TI-83 or TI-84 graphing calculator is required.

0335 – Pre-Calculus - 1 credit (Weighted Course)

Year - Grade 10, 11, 12

Prerequisite: B- in Algebra II, and successful completion of Plane Geometry and Trigonometry no later than the first semester of Pre-Calculus enrollment

This rigorous course is designed for students interested in college level mathematics and is intended to develop the background necessary to study Calculus. Topics considered are properties of polynomials, rational, exponential and logarithmic functions; solving polynomial, rational, exponential, and logarithmic equations algebraically and graphically, fields of complex numbers, solving systems of equations algebraically and graphically, matrices and determinants, sequences, series, mathematical induction, vectors, limits and basic rules for differentiation. A graphing calculator is required.

0350 - Calculus - .5 credit (Weighted Course)

Semester - Grade 11, 12

Prerequisite: B in Pre-Calculus

This is a rigorous one semester course, which is designed to review the basic concepts of functions and the Cartesian plane, limits, continuity, differentiation, and applications of the derivative and basic integration. A graphing calculator is required. Students who plan to take Calculus AB will be enrolled in first semester Calculus.

0351 – AP Calculus AB - .5 credit (Weighted Course)

Semester - Grade 11, 12

Prerequisite: B in Calculus

During the second semester, the student will continue the study of Calculus on an independent basis within the scheduled class period. A student choosing this course will be responsible to the Calculus instructor who will outline the requirements of the course which are necessary in order to receive semester credit. This course will also give the student the necessary background for the Calculus AB Advanced Placement Examination in mathematics. The AP Test **requires** a graphing calculator. Students enrolled in AP Calculus AB may not drop this class partway through the year.

0352 – AP Calculus BC - .5 credit (Weighted Course)

First Semester – Grade 12

Prerequisite: Completion of chapter 8 in Calculus textbook, and B in AP Calculus AB

This semester course is designed for students to continue their study of Calculus beyond the Calculus AB level. New topics include parametric, polar, and vector functions, more detailed applications of the derivative, more techniques and applications of integration, polynomial approximations and series. This course will also give the student the necessary background for the Calculus BC Advanced Placement Examination. The AP Test **requires** a graphing calculator.

0368 - Internet Programming I - .5 credit

Semester - Grade 9, 10, 11, 12

Prerequisite: Successful completion of Algebra 1 or Essentials of Algebra I

This course is designed for students who are interested in the Internet and web design. By taking this course, students will learn the code behind web pages: Hypertext Markup Language (HTML) and JavaScript. Students will learn basic and intermediate HTML codes, and then use them to construct and maintain their own web sites. The final project will be to design a model for a business' web site or create a project/website on an approved school related or educational topic. (This course is an elective, and may not be used toward the three math credits required for graduation.)

0369 - Internet Programming II - .5 credit

Semester - Grade 9, 10, 11, 12

Prerequisite: C in Internet Programming I

This course is designed for students who already have a basic understanding of HTML coding, JavaScript and database design. Students will learn SQL (Server Query Language), and will expand upon their existing web sites. They will begin incorporating web database management and learn how to control and manipulate data bases using SQL. (This course is an elective, and may not be used toward the three math credits required for graduation.)

0370 - Structured Computer Programming I - .5 credit

Semester - Grade 10, 11, 12

Prerequisite: D- in Algebra II or an A- in Essentials of Algebra II

This course will introduce a student to the world of programming through a highly structured language of JAVA. Logical, orderly thinking patterns are emphasized. No prior programming experience is necessary.

0371 - Structured Computer Programming II - .5 credit

Semester - Grade 10, 11, 12

Prerequisite: C- in Structured Computer Programming I

This course will extend the concepts taught in Structured Computer Programming I. Advanced concepts such as arrays, structs, pointers, recursion, multi-level data structures, and strings will be presented. Primarily, this course will be geared to those students who are planning a career in one of the following fields: computers, engineering, mathematics, or science related fields.

0372 - Data Structures I - .5 credit (Weighted Course)

Semester - Grade 11, 12

Prerequisite: C in Structured Computer Programming II, and Familiarity with HTML

This course will extend the concepts taught in Structured Computer Programming I and II. Students will apply knowledge of C++ to learning the language of JAVA. Emphasis will be placed on Object Oriented Programming.

0373 – Data Structures II - .5 credit (Weighted Course)

Semester - Grade 11, 12

Prerequisite: C in Data Structures I and department permission

This course will extend the concepts taught in Data Structures I and Structured Computer Programming I and II. Major emphasis will be the continued development of discipline in program design style, debugging, and testing, and the use of information hiding methods to modularize and develop large programs. Object oriented topics include: abstract classes, methods, messages, polymorphism, inheritance and encapsulation. Also, there will be programming projects to be completed in small groups (2-4 students per group).

Mathematics Related Courses in Other Departments

<u>Course</u>	<u>Department</u>	<u>Credits</u>
642 Accounting I	Business Education	1.0

This course may receive 1 math credit provided the student has successfully completed Algebra II.

MUSIC

Music Performance – 1 credit

Year – Grade 9, 10, 11, 12

Music Performance includes **Band, Concert Choir** and **Orchestra**. Each of these subjects is described below. A student is permitted to participate in more than one of these areas. One credit a year is the

maximum number of credits a student can earn by successfully completing all requirements and participating in all rehearsals and performances.

0686 – Band

The study and performance of band literature from classical music to the "sounds of today". No auditions are necessary to gain a position in the organization. Emphasis is placed on individual proficiency and musicality of performance.

Co-curricular Activities - performance groups organized to further student involvement and increase individual proficiency are: Jazz Ensemble, Woodwind Ensemble(s), Brass Ensemble(s), Percussion Ensemble and Marching Band. Band members are eligible for County, District, Regional, State, All-Eastern and National Bands as well as other competitive organizations for which this group is a prerequisite.

0692 – Concert Choir

This course is the study and performance of vocal music from the Renaissance period to the twentieth century. No audition is necessary to gain a position in the organization. It offers opportunities for participation in County, District, Regional and State Choruses and other festivals as selected for which this group is a prerequisite. It is the nucleus of the vocal music program. Students will participate in field trips at the discretion of the director and will perform for church and civic organizations, as well as for the school Holiday Concert and Spring Concert.

Co-curricular activities: performance groups organized to further student involvement and increase individual proficiency are Chamber Singers, Show Choir, The Production Company, The Millennium Men (an a cappella men's ensemble), and The Glitter Girls (a female ensemble). An audition in the Fall semester is necessary to obtain placement in one of these performing organizations.

0689 – Orchestra

Prerequisite: None for all string players. Approval from director for wind and percussion players.

The primary purpose of this organization is to study orchestral literature, traditional and contemporary, with public performance being the end product of this study. Individual performance as it relates to the total group's performance is emphasized. Participation in small ensembles such as quartets, trios or duos for public performance is a possibility to enhance individual student involvement and instrumental proficiency.

Public performances are at the Holidays, in the Spring and at baccalaureate. The orchestra membership also comprises the nucleus around which the pit orchestra for the Spring Musical is selected.

Orchestra members are eligible to audition for L.L.M.E.A., District, Regional and State orchestras, as well as other competitive organizations or festival orchestras for which this group is a prerequisite.

0715 - Music Theory I - .5 credit **Semester - Grade 9, 10, 11, 12**

This course will discuss what makes music what it is. It is recommended for students in the performing organizations and especially for those who want to major in music. This course is open to anyone desiring to work in depth on how music is structured and to learn to create his or her own music. Some previous music knowledge is necessary. This course will cover the areas of ear training, sight singing, basic keyboard skills, and the historical and theoretical foundations of music.

0716 - Music Theory II - .5 credit
Semester - Grade 9, 10, 11, 12

This course is designed to be a continuation of Music Theory I. This course will further study how music is structured and learn to create his or her own music with more parts. We will study advanced ear training, sight singing, keyboard skills, and choral progressions.

0717 - History and Study Of Vocal Music I - .5 Credit
Semester - Grade 9, 10, 11, 12

This course combines a study of the history of vocal music styles, training of the natural vocal abilities of the student, and an appreciation of all types of vocal music. Students will study literature from the Classics to the American Musical Theater to American Popular Music and beyond. Students will understand the use of proper vocal techniques through performances and understand the physical functions of the body during vocal production. This class offers a more individualized study away from the traditional large group setting. Any student in grades 9,10, 11 and 12 may elect this class. There is no prerequisite for this course.

0718 - History and Study of Vocal Music II - .5 credit
Semester - Grade 9, 10, 11, 12

Prerequisite: The History and Study of Vocal Music I

This course is designed to be a continuation of The History and Study of Vocal Music. This course combines a continued study of the history of vocal music styles, training of the natural vocal abilities of the student, and an appreciation of all types of vocal music. You will further develop your vocal and listening skills, as well as gain more confidence during performance. Anyone in grades 9,10, 11 and 12 may elect this class.

0719 – Music Technology Applications - .5 credit
Semester - Grade 9, 10, 11, 12

Prerequisite: None other than prior general music education and computer instruction.

This course will offer high school students exposure to music through technology. This course will provide any interested high school students with the opportunity to explore the unique aspects of music through the use of technological tools including computer, electronic MIDI, (Musical Instrument Digital Interface), keyboards, various composing and sequencing software programs and research on the internet.

Strategic Math and Literacy - Remediation

Strategic Math and Literacy

Both the Math and English departments have created a series of courses designed to provide additional academic support for students' math and literacy skills. The purpose of Strategic Math and Strategic Literacy is to directly teach and develop essential skills to support student success in achieving proficiency on the PSSA as well as building necessary skills to support continued academic success in these two core content areas.

Specific descriptions of the classes are found below. Students will be selected to participate in these classes. Eligible 9th, 10th and 11th grade students will be selected, and scheduled, for these classes by the end of June. The following criteria will be used to place students in these classes:

- Data from PSSA Math/Reading assessment
- Other local assessments
- Teacher recommendation

Strategic Literacy 9 - .25 credit
Semester (every other day) – Grade 9

Strategic Literacy 9 is designed for students who test below grade level on the district-approved reading assessment. A variety of texts will be used during direct instruction to teach active reading strategies applicable to fiction and nonfiction texts. Students will also practice independent reading with a self-selected novel. To help students understand and use words effectively, the course will use a systematic approach to vocabulary development. It will also teach students how to construct open-ended written responses to literature.

Strategic Literacy 10 – .25 credit
Semester (every other day) – Grade 10

Strategic Literacy 10 is required for students who have tested significantly below their current grade level on the district-approved reading assessment. Using a variety of fiction and nonfiction texts, this course is designed to improve reading comprehension, vocabulary, and written responses to reading selections. Student growth will be monitored using local assessments. The goal of this program is to improve student achievement in reading. Its content and structure support future course-wide assessments such as the Keystone literature exams.

Strategic Literacy 11 - .25 credit
Semester (every other day) – Grade 11

Strategic Literacy 11 is required for eleventh grade students who test below proficient on the district-approved reading assessment. This course will include direct instruction in reading comprehension strategies, vocabulary, written responses to reading selections, and test-taking skills. Upon completion of the course, students will be expected to demonstrate an increased level of achievement in comprehending a variety of texts and in responding to open-ended questions.

Strategic Math 9 - .25 credit
Semester (every other day) – Grade 9

Topics in this course cover operations of real numbers, representations of linear functions, properties of lines, identification of numerical patterns, inequalities and equations, representation of data, and lines of best fit. Selection criteria for this course are based upon 7th and 8th grade PSSA scores and 8th grade local assessments.

Strategic Math 10 - .25 credit
Semester (every other day) – Grade 10

Topics in this course cover operations of real numbers, angle measures, surface area, volume, properties of circles, triangles, and quadrilaterals, similarity, congruence, and the Pythagorean theorem. Selection criteria for this course are based upon 8th grade PSSA scores and other local assessments.

Strategic Math 11 - .25 credit
Semester (every other day) – Grade 11

Topics in this course support content covered in our algebra II program and content on the PSSA exam. These include geometric relationships, algebraic topics, calculations of measurement, and statistical representation. Selection criteria for this course are based upon performance on local assessments.

SCIENCE

Earth Science - 1 credit

Year - Grade 9

0211 – Level 1 0212 – Level 2 0213 – Level 3

Prerequisites: For Level 1 Earth Science: The student must have earned at least a B- in 8th grade Science (0831), For Level 2 Earth Science: The student must have earned at least a C- in 8th grade Science (0831).

Earth Science is a course, which relates the student's background in the physical sciences to the earth and the universe. Students will learn how the basic principles of the physical sciences are applied in astronomy, geology, and meteorology.

Biology – 1 credit

Year - Grade 9, 10

0220 - Grade 9

0221 – Grade 10 - Level 1 0222 – Level 2 0223 – Level 3

Prerequisite: For Level 1 Biology: The student must have earned a C- or higher in Level 1 Earth Science or at least an A- in Level 2 Earth Science. For Level 2 Biology: The student must have earned a C- or higher in Level 2 Earth Science or at least an A- in Level 3 Earth Science.

Biology is the study of life. The course involves science as inquiry and discusses the structure and function of the various levels of life. Topics include biomolecules, homeostasis, cellular energy, genetic continuity, biotechnology, evolution and ecology. This survey course in Biology involves presentations, demonstrations, laboratory exercises and collaborative activities. Level 1 Biology is recommended for college bound students who may pursue a science related or technical career. Level 2 Biology is recommended for students planning on entering college, but not as a science major. Level 3 Biology is recommended for students who do not plan to attend a post-secondary school.

0224 - Introduction to Genetics - .5 Credit (Weighted Course)

Semester - Grade 10, 11, 12

Prerequisite: B+ average in Biology 220 or 221

Student must be enrolled in Chemistry or have completed Chemistry.

This course will provide students with an advanced understanding of basic genetic principles, modes of inheritance, biotechnology applications, common lab procedures when working with organisms pivotal in the study of inheritance. Students will also discuss real life applications and ethical considerations. A variety of "hot topics" within the field will be discussed.

0231 – Level 1 Honors Chemistry – 1 credit (Weighted Course)

Year - Grade 10, 11

Prerequisite: B average in Algebra I, currently enrolled in Algebra II or department approval.

The study of chemistry involves a look at the nature of materials. The course combines an inquiry into how chemical facts and concepts are established, with exercises in basic skills and problem solving. Laboratory experiments are coordinated with this development of principles. Atomic structure, bonding of compounds, gases, periodic properties, and solutions are some of the topics considered. This course REQUIRES STUDENTS TO COMPLETE A SCIENCE FAIR PROJECT AND is recommended for students who may pursue a science-related or technical career.

0232 – Level 2 College-Prep Chemistry - 1 credit

Year - Grade 10,11,12

Prerequisite: C- or higher in Algebra I

This course is designed to help students realize the important role that chemistry plays in their lives. Topics of study will include the nature of science, measurement, classification of matter, gasses, atomic theory, periodic properties, the mole, ionic and covalent compounds, chemical reactions, bonding, and stoichiometry. Students will learn to see the world from a molecular perspective. Students will be engaged in a variety of inquiry activities and will learn a variety of laboratory techniques.

0233 – Level 3 Chemistry – 1 credit

Year - Grade 10, 11, 12

Prerequisite: Successful completion of Earth Science, Biology, and Algebra I or Essentials of Algebra I.

Chemistry introduces students to fundamental principles of chemistry and how chemistry is applied in their everyday lives. Students will learn to see the world from a molecular perspective. A basic level of math (fractions, proportions, percents) is needed in problem solving. Topics of study will include water chemistry, metal/nonmetal chemistry, petroleum chemistry, atmospheric chemistry and nuclear chemistry.

0241 - Physics I – 1 credit

Year - Grade 10, 11, 12

Prerequisite: Grade of C or higher in Algebra II & Geometry.

This course seeks to build a student's understanding of physics through exploration of observed phenomenon using the scientific methods. The majority of class-work is collaborative and student centered. Students will learn how to see physics in their everyday lives, as a part of everything they do. Topics studied are motion, forces, energy, momentum, gravity, astronomy, states of matter, heat and some applications of electricity and magnetism. Concepts in General and Special Relativity and quantum theory are also touch upon. Some time may also be spent exploring "green" energy technologies.

0242 – Physics II – .5 credit (Weighted Course)

Year - Grade 10, 11, 12

Prerequisite: Grade of C or higher in Physics 241 or 243

This is an inquiry-based, conceptually oriented course that is built primarily on investigative lab experiences. We will explore the topics of waves, vibration, resonance, sound, light, color and the interactions of electromagnetic waves with matter. We will also explore in more depth static electricity, electric circuits, and the basics of electric motors and generators.

0243 - Honors Physics – 1 credit (Weighted Course)

Year - Grade 10,11, 12

Prerequisite: Grade of B or higher in Trigonometry and current enrollment in Pre-Calculus or Calculus.

The honors section of Physics seeks to prepare the student for the rigors of a calculus-based physics course in college by creating a solid foundation for the core concepts of Mechanics (the branch of physics emphasizing motion, forces, momentum, energy and gravitation). The course of study closely parallels Physics 241 with an added depth that a deeper understanding of mathematics allows. Expectations for the quality of written work projects and reports are also higher.

0234 - Chemistry II - .5 Credit (Weighted Course)

Semester - Grade 11, 12

Prerequisite: Successful completion of General or Honors Chemistry

The course provides an opportunity to study other topics in chemistry and related fields. These topics include: reaction rates, equilibrium, acids and bases, oxidation-reduction reactions, and electrochemistry. Analytical procedures and equipment will be used to detect and measure common substances. This course would benefit any student interested in science and planning to enter college or technical school.

0235 - Organic Chemistry - .5 Credit (Weighted Course)

Semester - Grade 11, 12

Prerequisite: Successful completion of General or Honors Chemistry

In Organic Chemistry, an attempt is made to organize the vast array of organic compounds, and to study reactions typical of the various groups. Some study of modern analytical procedures related to organic substances is also pursued. This course is especially recommended for anyone interested in a career related to chemistry, medicine or nursing. A previous course in chemistry is required.

0226 - Advanced Placement Biology - 1 credit (Weighted Course)

Year - Grade 11, 12

Prerequisite: *Grade of at least B+ in Biology 220 or 221

*Taken after the successful completion of General or Honors Chemistry

This course will cover topics including the study of cells, chemistry of life, cellular energy production and utilization, heredity, molecular genetics, ecology and the diversity, structure and function of living organisms. AP Biology is designed to be equivalent to a college level introductory biology course and will prepare students to take the Advanced Placement Biology test.

0590 - Design Engineering - 1 credit

Year - Grade 11, 12

Prerequisite: Earth Science, Biology, and currently enrolled in or successfully completed Chemistry and Algebra II, or with instructor's approval.

Engineers need to solve problems in the real world every day. In this course students will focus on the process that engineers use to solve real world problems of their own. The process that students will use include: research, design, develop, build, test and evaluate. Students will utilize the design process to create solutions to problems in the following areas: drafting, electronics, structures, fluid power, and mechanical systems. For video segments on past activities, please see your school counselor or Mr. Lefever in room C124. (1.00 Science credit may be earned for taking this course.)

Science Related Courses in Other Departments

The following courses may be substituted for Science course requirements (third year only):

<u>Course</u>	<u>Department</u>	<u>Credit</u>
575 Electricity/Electronics I	Technology Education	.5
576 Electricity/Electronics II	Technology Education	.5
580 Energy, Power & Transportation Technology I	Technology Education	.5
581 Energy, Power & Transportation Technology II	Technology Education	.5
590 Design Engineering	Technology Education	1.0
936 Animal Science	Ag. Science	.5
939 Forestry	Ag. Science	.5
940 Plant Science & Horticulture	Ag. Science	.5
943 Small Animals & Horses	Ag. Science	.5
950 Wildlife Management I	Ag. Science	.5
951 Wildlife Management II	Ag. Science	.5

SOCIAL STUDIES

U.S. History II - (1880's to Modern Times) - 1 credit

Year - Grade 9

0111 – Level 1 0112 – Level 2 0113 – Level 3

This course looks at the lives and pivotal events of the American people from end of 19th Century Industrialization to present times. Students are asked to draw analogies between past and current events. Instruction will include economic, historical, and geopolitical elements. The basic method of study is the inquiry approach.

0114 - Social Problems – 1 credit

Year - Grade 9, 10, 11

The course Social Problems will offer ninth, tenth and eleventh grade students an opportunity to study, discuss and research the following areas: the consumer, insurance, credit, crime, legal rights and juvenile delinquency, drugs, career guidance, prisons, civic rights, the family and related current events. The ultimate goal is for the student to recognize the importance of choices and decision-making process.

World History - 1 credit

Year - Grade 10 & 11

0131 – Level 1 0132 – Level 2 0133 – Level 3

In this survey course, students will be presented with a comprehensive overview of World History beginning with the development of man and origin of civilizations around the world. The course will focus on political, cultural, economic, and geographic influences as well as the events and people that shaped the course of history for the last 2000 years. A regular discussion of current events is also a part of the curriculum.

130 - Advanced Placement World History (8000 B.C.E.-Present) – 1 credit (weighted course)

Year – Grade 11, 12

Prerequisite: An A average in World History course (2011-2012) or departmental recommendation, and based upon the curriculum standards instituted by the College Board.

Advanced Placement World History will offer an in-depth historical approach to World History. This course will enable students to display an understanding of historical events and people and their influences. This course will examine and evaluate social, political, economic, cultural, and environmental themes.

AP World History is a rigorous, college-level course requiring the commitment of time and effort to the content. Emphasis will be placed on analytical thinking and writing skills. Considerable reading and independent work are required. Class lessons will be enriched with discussions, debates, readings, and simulations. When a student completes this course, he/she will have the opportunity to earn college credits when he/she successfully completes the AP World History exam in the spring.

140 - Advanced Placement United States History – 1 credit (weighted course)

Year – Grade 11, 12

Prerequisite: An A average in sophomore or junior social studies' course or departmental recommendation

The Advanced Placement course in United States History is patterned after college courses. The course content includes history from the American Revolution through the post-Cold war era. Class activities will include discussions, seminars, role-play simulations, and lectures. Considerable reading and analytical writing are required. Upon successful completion of the course, the students will be prepared to take the Advanced Placement Test for college credit.

0141 – Civics and Government - .5 credit

Semester - Grade 12 (This course is only open to 12th grade students or 11th graders who plan on attending CTC)

0141 – Level 1

0142 – Level 2

0139 – Level 3

The Civics and Government course is designed to teach the core principles of U.S. citizenship and to explain the meaning, purpose, functions, and roles of government. Students in this course will study the functions, responsibilities, and duties of the Executive, Legislative, and Judicial branches of government. Additional areas of study include the origin of government, the creation and principles of key documents (Articles of Confederation, U.S. Constitution, and Bill of Rights), Federalism, Civil Liberties, Civil Rights, American political parties, and the electoral process. Key Supreme Court decisions, current government policies and agencies, governmental bureaucracy, and the workings and organization of state and local governments are also emphasized.

0158 - Advanced Placement United States Government and Politics-1 credit (weighted)

Year – Grade 12

Prerequisite: An A average in the junior year social studies' course, departmental recommendation, and based upon the curriculum standards instituted by the College Board.

This course is designed to help students gain and display an understanding of American politics and the processes of government that help shape our public policies. Students will develop a more sophisticated and insightful understanding of majority rule democracy, constitutionalism, civil liberties, and other distinguishing characteristics of the American political system. The course will examine and evaluate the institutions of government, those who run those institutions, the public policies made by these

institutions, and the influences of the electorate on policies. Advanced Placement Government and Politics is a highly structured college-level course. Only seriously minded, college bound students who are willing to commit the time necessary to fully engage in the class content should enroll in this class. Students are required not only to thoroughly read the college level text, but also augment this material through research and reading of college-level supplemental articles and then critically apply the findings to the political nature of current government policies and analyze the ramifications of these policies. One of the primary objectives of this course is to expose students to all areas of information covered on the AP American Government and Politics Examination.

0143 - Practical Economics - .5 credit
Semester - Grade 11, 12

Are you interested in learning how to manage your money, how to make good investments, how to get a good job, how to bank wisely and complete tax forms? Then Practical Economics is the course for you. The objective of the course is to prepare students to make wise financial decisions for the rest of their lives.

0144 – Principles of Economics - .5 credit
Semester - Grade 11, 12

The Principles of Economics is a college preparatory course for the serious-minded Economics student. It will focus on the theories, which support and direct the economic policies of the United States.

0152 - Geography of the United States – 1 credit
Year - Grade 9, 10, 11, 12

This course is a regional study of the United States showing the relationship and interaction between the physical and cultural aspects of our country. Special emphasis is placed on the economic development of the various regions including the industry, agriculture, mining, tourism, etc.

0180 - World Geography – 1 credit
Year - Grade 10, 11, 12

This course will survey the world's geographic patterns, including physical features (landforms), the population settlement, resource base and current use, industrial pattern, agricultural patterns and transportation systems. Emphasis is placed on the interrelationship of these topics in the world today.

0155 – Anthropology - .5 credit
Semester - Grade 11, 12

This course will provide a good background for college-bound students. It includes the study of the origin of man and the development of cultures since prehistoric time. The emphasis of this course is a hands-on approach to how cultures interact and cope with our changing environment and other cultures.

0156 – Sociology - .5 credit
Semester - Grade 11, 12

This course investigates the behavior and function of man in such social institutions as the family, education, religion, economy and government. It also stresses group behaviors and relationships, social minorities, social stratification and individual status and role. It is an excellent course for general interest or college-bound students.

0157 - Practical Psychology - .5 credit
Semester - Grade 11, 12

This course is intended to provide input and experiences whereby students can better understand their mental and emotional process as human beings. Emphasis will be placed on functional insights and skills that can lead to improved self-concepts and better inter-personal relationships. Among the topics discussed are personality, development, effective interpersonal communication, the mind and body connection, and learning theories. Another goal of the course is to prepare students for college psychology courses.

TECHNOLOGY EDUCATION

COMMUNICATION TECHNOLOGY COURSES

0520 – Fundamentals of Drafting/Design - .5 Credit
Semester - Grade 9, 10, 11, 12

This course is designed to explore the basic techniques used to draw objects with the use of drawing instruments and/or computer aided software. The first half of the course will address the following topics: lettering, technical sketching, use of manual drawing equipment, one view drawings, surface area problems, orthographic projection, isometric drawings, and perspectives. The second half of the course is an introduction in the field of architecture. Students will learn basic fundamental architectural design principles and apply them towards their own drawing of a ranch style house. **(This course is highly recommended for any student interested in pursuing a two-year technical degree or four-year engineering degree after high school.)**

0521 - Architectural Structures - .5 credit
Semester – Grade 9, 10, 11, 12

Prerequisite: C average in Fundamentals of Drafting/Design

This course offers students the opportunity to explore architectural structures. An in-depth study of how buildings work. Students will study how architecture is the relationship between the environment, the human body, technology, and our concept of shelter. Students who enjoy solving real world problems and hands-on activities will appreciate this course.

Students will use computer aided drafting software extensively to design structures in this course, as well as develop skills in model building. While it is assumed that all students would benefit from taking this course in some way, architectural structures is mainly focused for individuals interested in the architectural and/or building industry, including engineering, architecture, and the building trades.

0522 - Architectural Design - .5 credit
Semester - Grade 9, 10, 11, 12

Prerequisite: C average in Fundamentals of Drafting/Design

This course offers students the opportunity to explore architectural design. The positive and negative aspects of contemporary, traditional, natural, and futuristic design will be discussed. Students will have ample time to practice design skills related to architecture. Students who enjoy solving real world problems and hands-on activities will appreciate this course. Students will use computer aided drafting extensively in this course. While it is assumed that all students would benefit from taking this course in some way, architectural design structures is mainly focused for individuals interested in the architectural and/or building industry, including engineering , architecture, and the building trades.

0525 – Engineering Drawing - .5 credit

Semester - Grade 9, 10, 11, 12

Prerequisite: C average in Fundamentals of Drafting/Design

Engineering drawing is an advanced course that will concentrate on the development of knowledge and skills through technical drawings in our industrial and technological environment. Students will gain experience in the area of one-view, multi-view, pictorial, sectioning, dimensioning, and detail drawings with an emphasis on problem solving. Computer-aided drawing, specifically 3D solid modeling, will also be stressed. **(This course is highly recommended for any student interested in pursuing a two-year technical degree or four-year engineering degree after high school.)**

0532 - Photography I - .5 credit

Semester - Grade 9, 10, 11, 12

Photography I is an introductory course designed to familiarize students with basic tools, materials and processes involved in this changing visual communication system. Warwick has made the transition from film and chemical photography to all digital photography. Students will learn theory and practice concepts in an all-digital environment. Basic camera handling and operation, exposure and composition concepts, importing, editing, printing and finishing techniques will all be studied in this course. A variety of hands on projects allow the students to use and understand our digital technology. **A \$15.00 lab fee will be collected in the first two weeks of the semester to help cover project costs.**

0533 - Photography II - .5 credit

Semester - Grade 10, 11, 12

Prerequisite: C average in Photography I

Photography II uses advanced digital photography and is designed for students to expand their knowledge on the principles taught in Photography I. Students will use a digital manual camera. The assignments allow the student creativity in using Photoshop to enhance their photographs. Some assignments will include nighttime, panoramic, portrait, and reflection. Students will complete a portfolio as well as a digital portfolio. **A \$15.00 lab fee will be collected in the first two weeks of the semester to help cover project costs.**

0560 - Graphic Communications I - .5 credit

Semester - Grade 9, 10, 11, 12

This course is designed for students to create, develop, produce products incorporating words and pictorial images. The course will comprise of the evolving technologies of design principles, desktop publishing, darkroom processes, offset presses, and bindery procedures. Learn the types of graphics needed to produce note tablets, business cards, and screen-printing. Adobe Illustrator, Photoshop and

In-Design will allow students to become familiar with the latest desktop publishing software. **A \$15.00 lab fee will be collected in the first two weeks of the semester to help cover project costs.**

0562 - Graphic Communications II - .5 credit

Semester - Grade 10, 11, 12

Prerequisite: C average in Graphic Communications I

This class offers students a chance to expand on their experience in Graphics I. Students will create printed materials with multiple colors. These will include printed gift boxes, candy wrappers, and greeting cards. Students will also create screen-printed materials; Students will have greater latitude in creating their printed material. An emphasis will be placed on desktop publishing applications including; Indesign, Photoshop, iPhoto and Illustrator. **A \$15.00 lab fee will be collected in the first two weeks of the semester to help cover project costs.**

POWER/TRANSPORTATION TECHNOLOGY COURSES

0575 - Electricity/Electronics I - .5 credit

Semester - Grade 10, 11, 12

Students will be introduced to the world of electronics. Utilizing hands-on activities, this first level course explores basic electrical and electronic principles in this rapidly progressing technological field. Practical applications of the electronic principles and skills will also be developed by constructing take home projects. Students are responsible for the cost of the project. **(This course is also recognized by the school district as a science substitution credit.) Students will need to have a good background in algebraic concepts.**

0576 - Electricity/Electronics II - .5 credit

Semester - Grade 10, 11, 12

Prerequisite: C average in Electronics I

Building upon the skills and knowledge obtained from electronics I, students will take a more in-depth study of practical applications of solid state and digital components. Student projects will be constructed relating these advanced electronic principles. The impacts of electronics, current issues and possible career opportunities in this technological field will be discussed. **(This course is also recognized by the school district as a science substitution credit.)**

0580 - Energy, Power and Transportation Technology I - .5 credit

Semester - Grade 9, 10, 11, 12

Energy, Power and Transportation Technology provides the student with an introductory overview of energy sources, power systems, power transmission and transportation. There will be individual and group hands-on projects and experiments to reinforce the scientific theory introduced. Many past, present and future applications will be explained, researched and developed by the students. Alternative energy resources will be explored as well as career opportunities in these rapidly growing fields. **(.5 Science credit may be earned for taking this course.) Students will need to have a good background in algebraic concepts. A \$5.00 lab fee will be collected in the first two weeks of the semester to help cover project costs.**

0581 - Energy Power and Transportation Technology II - .5 credit

Semester - Grade 9, 10, 11, 12

Prerequisite: C average in Energy, Power and Transportation Technology I

Energy, Power and Transportation Technology II provides students with an introductory experience in robotics and Fluid Power Technology. Students involved in this course of study will further explore alternative sources of energy as they relate to today's world. There will be individual and group hands-on project development and experiments to reinforce the scientific theory introduced. Many past, present and future applications of robotics and fluid power will be explained and developed by the students. Career related activities will be experienced and possible employment opportunities in this field of technology will be explored. (.5 Science credit may be earned for taking this course.)

MANUFACTURING/CONSTRUCTION TECHNOLOGY COURSES

0540 - Manufacturing and Construction in Wood Technology I - .5 credit

Semester - Grade 9, 10, 11, 12

Manufacturing and Construction in Wood Technology I introduces the students to current basic manufacturing and construction procedures. Instruction will cover materials processing, including their properties and applications as well as current industrial production methods. Industrial and personal safety using the tools, machinery and finishing methods will be emphasized. A laboratory safety improvement project will be required. **A \$15.00 lab fee will be collected in the first two weeks of the semester to help cover project costs.**

0541 - Manufacturing and Construction in Wood Technology II - .5 credit

Semester - Grade 9, 10, 11, 12

Prerequisite: C average in Wood Technology I

Manufacturing and Construction in Wood Technology II will involve more advanced direct hands on operations with equal emphasis on individual products as well as group manufacturing processes related to industry. Individual and group products will be produced utilizing cabinet-making skills and industrial mass production techniques. Research and experimentation utilizing industrial materials and methods will be explored. A laboratory safety improvement project will be required. **A lab fee will be collected in the first two weeks of the semester to help cover project costs.**

0542 - Manufacturing and Construction in Wood Technology III - .5 credit

Semester - Grade 10, 11, 12

Prerequisite: C average in Wood Technology II

Manufacturing and Construction in Wood Technology III provides the opportunity for students with a strong interest in this field to research and develop a specific area or process of this broad-based industry. Students will explore many advanced industrial manufacturing and construction processes, materials testing and research and development techniques. A laboratory safety improvement project will be required. **A lab fee will be collected in the first two weeks of the semester to help cover project costs.**

0550 - Manufacturing and Construction in Metal Technology I - .5 credit

Semester - Grade 9, 10, 11, 12

This course introduces the student to basic manufacturing and construction processes utilized by the metal industry. The technologies explored will include machining, foundry, welding, soldering, sheet metal, forging and computer numerical controlled (CNC) machinery. The environmental impact of the metals industry on society will be explored. Manufacturing and Construction in Metal Technology I will include the testing and processing of raw materials into finished products. Individual and industrial safety will be emphasized, concluding with a required laboratory safety improvement project. **A \$15.00 lab fee will be collected in the first two weeks of the semester to help cover project costs.**

0551 - Manufacturing and Construction in Metal Technology II - .5 credit

Semester - Grade 9, 10, 11, 12

Prerequisite: C average in Metal Technology I

This course introduces the student to advanced manufacturing and construction processes utilized by the metal industry. The technologies explored will include machining, foundry, welding, soldering, sheet metal, forging and Computer Numerical Controlled (CNC) machinery. The environmental impact of the metals industry on society will be researched. Manufacturing and Construction in Metal Technology II will include advanced research and testing of metals as well as production of raw materials into finished products. Laboratory experiences will include small group production activities. Individual and industrial safety will be emphasized, concluding with a required laboratory safety improvement project. **A lab fee will be collected in the first two weeks of the semester to help cover project costs.**

0552 - Manufacturing and Construction in Metal Technology III - .5 credit

Semester - Grade 10, 11, 12

Prerequisite: C average in Metal Technology II

This course offers the student advanced manufacturing and construction processes by utilizing the Mass Production approach of the metal industry. The technologies explored will include advanced applications of machining, foundry, welding, soldering, sheet metal, forging and Computer Numerical Controlled (CNC) machinery. The environmental impact of the metals industry on society will be researched. This course will include advanced research, experimentation and testing of the products utilized by the metals industries, as well as production of raw materials into finished products. Laboratory experiences will include large line production activities. Individual and industrial safety will be emphasized, concluding with a required laboratory safety improvement project. **A lab fee will be collected in the first two weeks of the semester to help cover project costs.**

0590 - Design Engineering – 1 credit

Year - Grade 11, 12

Prerequisite: Earth Science, Biology and currently enrolled in or successfully completed Chemistry and Algebra II, or with instructor's approval

Engineers need to solve problems in the real world everyday. In this course students will focus on the process that engineers use to solve real world problems of their own. The process that students will use included: research, design, develop, build, test, and evaluate. Students will utilize the design process to create solutions to problems in the following areas: drafting, electronics, structures, fluid power, and mechanical systems. *For video segments on past activities please see your school counselor or Mr. Lefever in room C124.*

This course is a theory/hands-on course and is highly recommended for any student going into engineering or students pursuing a technical degree.

Career and Technology Center

Advanced Manufacturing Center

Electro-Mechanical Engineering Technology

The Electro-Mechanical Engineering program is designed as a pre-engineering program with an industry driven curriculum developed by leaders in the field. This program combines mechanics, control, electronic and electrical engineering, computer science, and systems design to create useful products. Examples of Electro-Mechanical systems include robots, digitally-controlled combustion engines, and machine tools with self-adaptive tools, contact-free magnetic bearings, and automated guided vehicles. In such systems, software has become an integral part of the product itself, an actual “machine element” necessary for proper function and operation. The Electro-Mechanical Engineering program includes an innovative curriculum. Students will gain knowledge and skills in: blueprint reading, mechanics, pneumatics, hydraulics, electricity, electronics, motors, motor control, programmable logic controls, robotics and motion control, process control instrumentation, and computer integrated manufacturing.

Sheet Metal Technology

This program teaches skills necessary for construction of metal roofing, siding, spouting, welding application, and the layout, fabrication and installation of heating, ventilation and air conditioning (HVAC) ductwork along with other custom applications used in manufacturing and construction fields. In addition to lab work, sheet metal students create HVAC ductwork and flashing work for the student-built house project. The program is nationally certified by the National Center for Construction Education and Research (NCCER) which is recognized by the Associated Builders and Contractors (ABC). Students learn how to set up and operate major fabricating machines, such as shears, brakes, presses, and forming rolls. These machines cut, bend, form or strengthen materials. Sheet metal jobs may require considerable bending, lifting, standing and squatting. Workers need good hand-eye coordination, manual dexterity and measurement skills, plus the ability to visualize three dimensional projects.

Welding Technology

Welders apply intense heat to metal pieces to join, melt and fuse them to form a permanent bond. Students in the program learn the techniques of Oxyfuel, Arc, Mig and Tig welding processes necessary for a variety of construction and repair projects such as building bridges, automobiles and other manufactured products. The Welding Technology program is nationally accredited by the American Welding Society (AWS/SENSE) and introduces students to both welding and cutting. Welders and cutters need manual dexterity, strength to lift heavy objects, measurement skills, good eyesight and hand-eye coordination. They should be able to concentrate on detailed work for long periods and be able to bend, stoop and work in awkward positions.

Agriscience Center

Environmental Horticulture

The Environmental Horticulture industry is all around us in green areas and parks, manicured commercial properties, tree-lined neighborhood streets, interior landscaped shopping malls, and the trees, shrubs, and flowers that beautify private homes. This program will introduce the student to these various aspects of the evolving Horticulture industry. The areas covered will be plant production and research, environmental planting and design concepts, and green technology. Students will be instructed in the theory and skills needed to successfully enter the business world or post-secondary education. Instructional facilities include the school's 8,000 square foot greenhouse, retail garden shop and landscaped grounds. Topics covered in the program are plant propagation, pest control, media and soil composition, plant maintenance, green roof technology, water conservation, sustainable landscape practices, beekeeping, and business operation.

Large Animal Sciences

This program introduces students to the exciting and dynamic Agriscience industry while preparing them with the knowledge, hands-on training, and technical skills to successfully enter the career ladder in production animal science. The program covers topics including anatomy and physiology, reproduction, veterinary care, handling and restraint, nutrition, agriculture law compliance, biosecurity, genetics, and laboratory procedures. Students in this program will have the

opportunity to do both theory in the classroom and hands-on education in the lab and on curriculum trips. Students will be exposed to cows, horses, sheep, goats, alpacas, and poultry. There is a demand for skilled workers with a strong work ethic. Graduates will have employment options in the expanding and diverse field of large animal sciences.

Veterinary Assistant

The program combines classroom theory and laboratory experience on topics including small animal veterinary care, surgical assisting, laboratory testing, cleaning and feeding techniques. A career as a Veterinary Assistant encompasses all parts of veterinary medicine. Veterinary Assistants help Veterinary Technicians and Veterinarians in the care of animals. Common duties of a Veterinary Assistant would include animal restraint, receptionist tasks, surgical assisting, setting up for laboratory procedures, grooming, exercising animals and cleaning. Students learn hands on skills with dogs and cats. Graduates could obtain employment in veterinary hospitals, animal training facilities, boarding kennels, grooming parlors or any business that houses or cares for animals. This program has an affiliation with the Lancaster Humane League and they perform low cost spay and neuter surgeries for the public once a week. This is the only program in the state that has students practicing surgical assisting tasks on a weekly basis. The demand for trained veterinary assistants has steadily increased over the past decade and this growth is expected to continue.

Construction Technologies Center

Architectural CAD – Design

The Architectural CAD–Design program offers a foundation of basic CAD (Computer-Aided Drafting) skills and knowledge, preparing students to attend a two or four-year institution of higher learning or to begin a career as an entry level drafter and/or CAD operator. Students learn techniques through a self-paced program of instruction that includes instruction in AutoCAD software and other architectural concepts. Architectural draftspersons prepare accurate architectural working plans, cross-sections and details for engineering drawings. They may be required to make mathematical calculations, and to estimate both the quantity and cost of materials needed for a project. The program content consists of detailed instruction in basic house design, room planning, floor plans, elevations and preparation of working drawings and details.

Cabinet Making and Millwork

The Cabinet Making and Millwork program prepares individuals for employment in the woodworking field. The program instructs students in general safety, hand tools, portable power tools, set-up and operation of woodworking machines, the design, layout and construction of furniture and cabinetry, identification and use of solid wood and sheet goods, countertop fabrication, blueprint reading, sanding and finishing techniques, and the installation of cabinets and countertops. Employment within the woodworking field requires physical strength, stamina, math skills, the ability to measure, and strong attention to detail. Students gain additional practical experience as they produce and install the kitchen, bath and laundry cabinets for the annual house construction project.

Commercial Construction and Management

The Commercial Construction and Management program offers students the opportunity to gain skills and knowledge for entry-level employment in the commercial/industrial construction field. The skills are acquired through a unique blend of theory, lab, and job site experiences. The program is certified by the National Center for Construction Education and Research (NCCER) and is recognized by the Associated Builders and Contractors (ABC). It includes instruction in and hands-on application of power tool operation, blueprint reading, site preparation, concrete application, basic framing procedures, building design, industrial finishers, exterior finishers, estimating and purchasing procedures. Additionally, the curriculum offers ten hours on Occupational Safety and Health Administration (OSHA) training, as well as Power Activation certification and JCB Backhoe certification.

Electrical Construction Technology

The Electrical Construction Technology program is recognized by the Associated Builders and Contractors (ABC) and taught by a certified National Center for Construction Education and Research (NCCER) instructor. The program prepares individuals for employment in today's residential, commercial and industrial electrical industries. Instruction includes electrical principles and theory, residential and commercial wiring, electrical maintenance, basic motor control systems and transformers. Electricians install, connect, test and maintain electrical systems for a variety of purposes. Electricians follow the requirements of the National Electrical Code (NEC) specifications and procedures. Students learn these guidelines and how to navigate the NEC. Excellent reading and math skills are necessary, as well as good eyesight with normal color vision to distinguish color codes on wires.

HVAC/R

From furnaces to refrigeration units, systems that control heating, ventilation, air conditioning and refrigeration are important components of today's residential, commercial and industrial buildings. The HVAC/R program prepares students to install, repair and maintain this equipment. The program is nationally certified by HVAC Excellence and by the National Center for Construction Education and Research (NCCER), and is recognized by the Associated Builders and Contractors (ABC). Curriculum studies include: HVAC equipment line voltage circuits, 24-volt control circuits, electric schematics, air distribution and duct work, air conditioning, heat pumps, electric heat, gas heat, oil heat, hydronics and blueprint reading. Lab includes basic HVAC industry entry level skills of the following: electric circuits, soldering, brazing, black iron piping, sst piping, sheet metal duct, basic fiberglass duct, air conditioning, heat pumps, gas furnaces, oil furnaces, boilers. Employees in this field need a strong mechanical aptitude, and solid reading and math skills are needed to understand technical manuals.

Masonry

From a simple walkway to the ornate exterior of a high-rise building, masons use a variety of materials to create durable surfaces and structures. The Masonry program combines classroom training and job site experience so that upon graduation, students should perform at a level equivalent to a masonry apprentice with six months of experience. The program is certified by the National Center for Construction Education and Research (NCCER) and recognized by the Associated Builders and Contractors (ABC). Students receive instruction in laying concrete block and brick, composite walls, chimneys and fireplaces, landscaping, paving, setting tile, stone work, drywall, plaster, stucco and concrete pouring finishing. Other topics include the different types of mortar mixes, their strength and uses, reinforcement of masonry walls, masonry cleaning, weather protection for masonry, and estimating supplies and materials. Masons stand, kneel and bend for extended periods of time and often lift heavy materials overhead.

Painting/Ceramic Tile and Vinyl

This program teaches the basics of residential, commercial and industrial painting and flooring. Lessons include fundamentals of color theory, using tools, estimating material amounts, using scaffolding and ladders, reading blueprints. The program is certified by the National Center for Construction Education and Research (NCCER) and is recognized by the Associated Builders and Contractors (ABC). The curriculum covers various painting/finishing techniques including exterior and interior painting, wood finishing and spray painting. Instruction in wall covering installation includes preparing drywall and hanging wallpaper around doors, windows, inside and outside corners, and archways. Students learn how to apply finishes to both antique and new furniture. Flooring lessons include the installation of ceramic tile and vinyl. Students use a wet saw, tile cutter and trowels to prepare and lay ceramic tile for floors, countertops, backsplash, tub surrounds and shower stalls. Work in this field requires bending, kneeling, crawling, working on ladders and the flexibility to maneuver in confined areas.

Plumbing

The high-paying field of plumbing involves the installation and repair of water, drainage, waste disposal and gas systems in residential, commercial and industrial buildings. Plumbers also install fixtures, such as bathtubs, sinks and appliances including dishwashers and water heaters. The Plumbing program is certified by the National Center for Construction Education and Research (NCCER) and recognized by the Associated Builders and Contractors (ABC). The program covers blueprint reading, residential systems, fixture and equipment installation, system maintenance, repair and troubleshooting. Other areas include plumbing rough-in, PVC and metal piping, water heater service and system installation, system performance, estimations, soldering, drain line work and using trade tools and equipment. Students acquire job site experiences, such as installing plumbing in residential and commercial buildings, as part of their training. The class is responsible for the installation of all plumbing systems in the new house construction project, including gas mains, water mains, sewer lines and fixtures.

Residential Carpentry

The Residential Carpentry program is certified by the National Center for Construction Education and Research (NCCER) and recognized by the Associated Builders and Contractors (ABC). The program prepares students for employment as a Carpenter Apprentice. Students demonstrate their skills by building a residential structure and doing construction/renovation work at off-campus job sites. Carpentry involves the steps of layout and measurement, cutting and shaping materials, joining materials and checking the accuracy of the finished job. The program covers instruction in hand and power tools usage, blueprint reading, estimating, scheduling, concrete form building and placing/ reinforcing/finishing concrete, as well as building wood frame structures such as rough framing, roof framing, exterior finishing, trim and interior finishing, hardwood floor installation and stair construction. Carpenters require hand-eye-foot coordination, along with the ability to make precise measurements and to solve arithmetic problems quickly and accurately.

Consumer Services Center

Cosmetology

Although styles and fashions change from year to year, the work of cosmetologists remains the same – helping people to look their best. Cosmetology, offered at all three campuses, teaches techniques in the art of hair, nail, and skin care. Instruction

covers shampooing, hair styling, permanent waving, coloring, chemical hair relaxing, skin care, manicuring, temporary hair removal, scalp treatment, make-up analysis and care of all hair types and textures. Students must complete 1250 hours of instruction before they are eligible to take the State Board of Cosmetology licensure examination. In order to obtain 1250 hours, high school seniors are required to complete their training by enrolling in a cosmetology program at LCCTC for completion during the summer after their senior year.

Early Childhood Education

This program is designed to train and prepare students for employment in the early learning field and provides the foundation for study in higher education. Early Childhood students receive hands-on experiences at the state-of-the-art Early Learning Center located on the Mount Joy campus, at the on-site Head Start program, and at a local elementary school. A graduate of this program who meets the requirements can qualify as an assistant group supervisor in Early Learning centers throughout Pennsylvania. In addition, students can prepare for the nationally recognized Child Development Associate credential. The students study all the phases of child development: physical, social, emotional, and intellectual. Instruction is provided in health, safety, development, learning environments, guidance, classroom management, and observation and learning activities. This program's curriculum is aligned with several college courses at local post-secondary schools. This allows students to earn college credits towards degrees in related occupations, such as: Elementary Education, Early Childhood Education, and Human Development and Family Studies.

Culinary Arts Center

Baking and Pastry Arts

The Baking and Pastry Arts program is equipped with the same state-of-the-art tools and machines used in industry settings. The program teaches the functions of ingredients in products, recipe conversions, sanitation, equipment safety and proper food handling. Students gain experience by preparing desserts, pastries and breads, which are sold or served in the Culinary Arts Center restaurant and store. Some of these products include tortes, flans, chocolate specialties, Danish, puff pastries, pies, mousses, specialty cookies, sauces, custards, puddings, icings and a wide variety of both breads and decorated cakes.

Culinary Arts/Chef

In the Culinary Arts/Chef program, students learn how to prepare soups, sauces, meat entrees, vegetable dishes, salads and dressings as well as herb and spice identification. Students prepare menu items ranging from local favorites to classical and international cuisine. Other areas covered include fresh pasta preparation, fabrication of beef, pork and poultry, seafood identification and preparation, appetizers, desserts, plate presentation, garnishing and restaurant service. Course work also includes purchasing, inventory, menu planning, nutrition, recipe costing and customer service. A major emphasis is placed on sanitation and use and care of kitchen equipment. A pleasant attitude and neat appearance are important when dealing with customers. Individuals need stamina to stand for long periods of time, excellent hand-eye coordination and a keen sense of taste and smell.

Event Planning and Tourism Services Management

This program takes a first-hand look at the fast-paced and exciting careers in hospitality. Students in this program will receive academic instruction and work experience that reflects industry standards for jobs within the hospitality, event planning and lodging industry, and gain work experience at a local lodging property. Students in this program will learn an overview of lodging management, leadership and management skills, reservations, front desk, housekeeping, marketing and sales, event coordination, and food and beverage service. When students graduate, they will be ready to begin their hospitality career or continue their education at a college or university.

Health Care Center

Clinical Care Assistant

This challenging program prepares students to work as nursing assistants in acute care settings. A nursing assistant provides direct patient care while utilizing technical skills in tasks assigned by a registered nurse. This individual completes and documents patient care activities. This program is certified by the National Health Career Association (NHA). The curriculum includes medical terminology, anatomy and physiology, medical law and ethics, math, nutrition, growth and development, critical thinking skills, pathophysiology, bedside care, personal care, ECG, phlebotomy, emergency skills, home health aide skills, and medical assisting skills including front office skills. This theory-intensive program includes a significant amount of reading from college level textbooks. The physical ability to move patients, excellent hand dexterity, and good hand-eye coordination are a must. This program offers a clinical internship in a hospital setting, preparing students for nursing programs and other health

care careers.

Dental Assistant

The Dental Assistant program integrates lectures, demonstrations and hands-on experiences to teach students a variety of dental-related subjects. The major areas of study include anatomy and physiology, chairside dental assisting, radiology, dental materials and microbiology/sterilization. The program also covers pharmacology, oral pathology, dental anatomy, computer introduction, medical/dental emergencies, dental office business procedures, legal/ethical management and communications. During the second half of the year, students participate in clinical rotations in private dental offices, clinics and hospitals. Experience gained in the Dental Assistant program prepares students to take the Dental Assisting National Board in dental radiology required by the Commonwealth of Pennsylvania. The program's textbook is written on a college level, requiring that students entering the program possess excellent reading/comprehension skills. The coursework is a stepping stone to furthering your education as an EFDA, dental hygienist or dentist.

Medical Administrative Assistant

This program prepares students to serve on a healthcare team in the administrative role. A Medical Administrative Assistant requires medical knowledge, organizational and business skills, communication skills, and the ability to meet accepted performance standards of health care workers. The program includes medical terminology with abbreviations, anatomy and physiology, disease processes, law and ethics, medical transcription, insurance procedures, coding, billing, collections, medical records, and electronic medical records. Administrative skills include appointment scheduling, phone technique, filing medical records, maintaining electronic medical records, typing medical reports, filling out insurance forms, banking duties, computer skills, and many other administrative procedures. The program textbooks are written on a college level, so students need excellent reading skills. Students should have basic computer and keyboarding skills upon entering the program. Qualifying students participate in an eight-week externship at a physician's office, hospital, clinic, insurance company, laboratory, pharmaceutical company, etc.

Medical Assistant

Medical assistants are professional, multi-skilled individuals who perform administrative and clinical duties in health care settings. The program includes studies in anatomy and physiology, health insurance coding and billing, medical math, medical terminology, medical law and ethics, pharmacology, clinical and administrative skills. In addition, curriculum includes clinical skills such as phlebotomy, laboratory tests, minor surgical procedures, medication administration and performing and interpreting electrocardiograms. During the fourth making period, students who have successfully completed program requirements may participate in a six-week clinical experience in a physician's office. The National Health Career Association (NHA) participates with the program to allow medical assistant students to receive certification through this agency. Students who participate in clinical may be eligible to sit for the exams to become certified as a clinical medical assistant, administrative medical assistant, phlebotomist and/or EKG technician. Students planning to pursue further health care training after high school should take the SAT or ACT testing during their junior year.

Nursing Assistant/Home Health Aide

This rewarding program prepares students to work as nursing assistants in long-term care facilities and/or as an aide in the home care environment. A nursing assistant provides direct patient care while utilizing technical skills in tasks assigned by a licensed nurse in the long term care setting. Nursing assistants complete and document patient care activities. This course is approved by the Pennsylvania Department of Education. This course will offer CNA training as well as Home Health Aide training. The curriculum includes medical terminology, anatomy and physiology, legal aspects of health care, math, nutrition, growth and development, critical thinking skills, pathophysiology, and bedside care, as well as home health care. The physical ability to move patients, good hand-eye coordination, dependability, and compassion are required. This program offers students the ability to participate in clinical rotations at long-term care facilities. After clinical completion students are eligible to take the certification test. Additional certifications include: American Heart Association First Aid, and Personal Care Home/Direct Care Staff Certification.

Information Technology Center

Computer Systems Technology

Computer Systems Technology includes courses in A+ and DHTI+. In the A+ course, students learn about motherboards, hard drives, IRQs, HEX, BINARY code and troubleshooting in preparation for the A+ Certification exams. In the DHTI+ course, students will learn about Digital Home Theater, Digital Satellite, AV technologies, Home Automation and Home Security technology. Once these courses have been mastered, various vendor specific product certifications may be taken in order to give the student more specific skills such as AMP/Tyco cabling certification. Students acquire an in-depth understanding of the planning, installing, configuring, and maintaining of computer systems. Instruction includes knowledge of server-level hardware implementations,

data storage and data recovery. The program follows the standards set forth by CompTIA, AMP/TYCO, and CISCO.

Web Design

Using Windows-based operating systems, the curriculum presents website elements, including web page preparation, programming, design, maintenance, and updating. The program builds upon a foundation of Internet concepts, including browser basics, file transfer protocol (FTP) and information resources. The study of layout and design consists of creating page templates, designing effective frames and tables, planning site navigation, understanding web typography, graphics, color and publishing/maintaining websites. Programming focuses on HTML, XHTML, CSS, and JavaScript. A look at visual and graphic design teaches students how to incorporate color techniques, use layers to finesse an image, create special effects with layers, take digital photos and enhance images using Adobe Photoshop image-editing software.

Protective Services Center

Emergency Medical Services

This full-day, program is offered at the Lancaster County Public Safety Training Center and is designed to prepare students for careers in emergency medical services. Students will acquire the skills to recognize acute injuries of the sick and injured, and to assess and manage medical emergencies in the pre-hospital field settings. Program instruction includes EMT-Basic, CPR, clinical experience/internship, anatomy and physiology, and professional standards and regulations. Health service career opportunities continue to grow and expand in the labor force of Lancaster County, the State, and the Nation. Two of these rapidly growing occupations are emergency medical technician and paramedic. As a graduate of the program, individuals may gain PA EMT-B certification, entry-level employment, or continue to post-secondary education.

Fire Protection

The program is offered to students as a full-day program and prepares individuals to perform the duties of a firefighter. It includes instruction in firefighter health and safety, fire-fighting equipment operation and maintenance, principles of fire science and combustible substances, methods of controlling different types of fires, fire rescue procedures, vehicle and machinery rescue procedures, rope rescue procedures, highway incident safety, public relations and applicable laws and regulations, leading to national certification as a Firefighter I. In addition, students will receive intensive instruction in emergency medical care leading to EMT certification by the PA Department of Health. The course prepares individuals to apply the knowledge and skills of fire prevention and control necessary for saving lives, reducing fire risk, limiting fire loss, supervising substance removal, conducting fire investigations, and advising on matters of safety procedures and fire prevention policy.

Law Enforcement, Corrections, and Security

This fulltime program prepares students for employment in the fields of law enforcement, corrections, private security, and military police. Instruction covers the crimes code, vehicle code, constitutional law and principles, rules of criminal procedures, arrest procedures, interviewing and interrogation techniques, private security subjects, correctional officer training, and police/security radio communication. Students also study and/or receive certification in the following areas: lifting latent prints and fingerprinting; police baton training; searching and frisking techniques; handcuffing techniques; physical fitness training and testing; self-defense training; Hazardous Materials Operations level certification; fire extinguisher operations/handling; vehicle rescue; ropes and rigging; EMT-B, and Professional Rescuer CPR and AED; NIMS (National Incident Management System); and building fire safety. Before starting a career, candidates must receive and maintain (to legally mandated established levels) criminal history and child abuse clearances, along with a psychological evaluation and test. Students are encouraged to pursue post-secondary training and/or education beyond the program in order to be competitive in the job market.

Transportation Technologies Center

Automotive Mechanics

This program trains students in the basic operation, diagnosis, and repair of various vehicle systems. Using information systems and testing equipment on late model vehicles, students gain skills that enable them to earn the Pennsylvania State Inspection and Emissions Inspection licenses. The program is certified by the National Automotive Technicians Education Foundation (NATEF). Curriculum covers fundamental service and repair practices, including tool identification, brakes, steering, and suspension. Additional topics include electrical systems, engine mechanical performance, ignition and computer-controlled systems, tire maintenance/balancing/alignment, and fuel management. Written tests prepare students for ASE certification. Qualified students may participate in CO-OP and an Advanced Placement Internship (API). Co-Op and API allow students to work side-by-side with an experienced technician at a local repair facility.

Automotive Technology

With each new model year, automobile systems become more sophisticated. The Automotive Technology program prepares

students for entry-level dealership employment and to continue their training at a post-secondary school. The National Automotive Technicians Education Foundation (NATEF) has certified this program in four areas: brake systems, steering and suspension, electronics/electricity, and engine performance. In addition to these areas, the program includes instruction in automotive fundamentals, diagnosis, engine management systems, and Pennsylvania State Inspection and Emissions Inspection procedures. Qualified students may participate in the Auto YES Program (Automotive Youth Educational Systems). This intensive program allows students to continue to learn technical skills as they work side-by-side with an experienced technician at a local dealership. Points on a student's driver's license may prevent him/her from being hired by dealerships as a new technician.

Collision Repair

Motor vehicle accidents occur frequently, and while some vehicles are damaged beyond economical repair, most receive only minor damages. Collision Repair Technicians examine these damages and use tools to straighten bent vehicle bodies, remove dents and replace parts so that vehicles operate properly and look like new. The Collision Repair program trains students in this field, covering areas such as safety, estimating, hand and power tool usage, frame repair, body alignment, refinishing, and customer relations. Curriculum also includes metal straightening, mig welding, metal cutting, glass and accessory service, measurement, panel replacement and alignment, servicing doors, surface preparation, cosmetic repairs and the selection of automotive paint finishes. Collision repair requires good color discrimination capabilities, excellent eye-hand coordination, stamina to stand for long periods of time, and a good understanding of measurement and ratios. Qualified students may participate in the Auto YES Program (Automotive Youth Educational Systems). This intensive program allows students to work side-by-side with an experienced technician at a local dealership.

Diesel Equipment Technology

As the diesel equipment industry continues to expand, the demand for mechanics and technicians to repair and maintain diesel equipment grows. The program instructs students in personal and workplace safety practices, tools, measuring devices and fasteners, basic engine principles, preventive maintenance and inspection. Study also includes electrical and electronic systems, truck brake systems, suspension and steering systems, and diesel engine rebuilding. The program is NATEF (National Automotive Technicians Education Foundation) certified in the following areas: diesel engine, brakes, electrical/electronic systems, preventive maintenance inspection, suspension and steering. Mechanics and technicians require a driver's license and a clean driving record. Due to federal regulation, mechanics must undergo drug and alcohol testing when hired and be able to pass random drug and alcohol testing even after continued employment. Qualified students may participate in the API Program (Advanced Placement Internship) and/or cooperative education. The intensive API program allows students to work side by side with an experienced diesel technician.

Heavy Equipment Operation and Basic Maintenance

This program is designed to provide students with the technical and job-related skills to work in the field of heavy equipment operation and maintenance. Students learn skills that prepare them to be heavy equipment operators for excavation and construction. When weather conditions permit, students practice their operation techniques at a training site. Skills are relevant to excavation, site layout, use of transit/laser/hand levels. The program is certified by the National Center for Construction Education and Research (NCCER) and recognized by the Associated Builders and Contractors (ABC) and also the Associated Pennsylvania Construction Contractors. The course and its curriculum have been developed in conjunction with the Pennsylvania Department of Transportation.

RV and Outdoor Power Equipment

From lawn and garden equipment, such as mowers and chain saws, to vehicles such as motorcycles and snowmobiles, small engines power many machines that make our lives more fun and convenient. The RV and Outdoor Power Equipment program offers both classroom and lab experience in all phases of repair and maintenance work on outdoor power equipment and recreational vehicles. The program is nationally certified by the Equipment and Engine Training Council (EETC); Outdoor Power Equipment (OPE). It provides instruction and practice in the areas of diagnosis of malfunction, four and two-stroke engines, disassembly of engines, examination of parts, reassembly of engines, hydrostatic and manual drive units and state inspection. Study includes various systems including fuel, electrical, lubricating, governing, steering, suspension, and braking systems. Students use an assortment of technical manuals, testing and diagnostic equipment, hand tools and power tools. During the school year, students have the opportunity to take the PA State Inspection written and performance tests for motorcycles.

Visual Communications Center

Commercial Art

The Commercial Art program is designed to introduce students to necessary tools and skills that will help advance their training in Graphic Design, Illustration, Web Design, Fashion/Interior Design, Advertising Art Direction, Animation, and Film. The

Commercial Art program stresses craft, concept and professionalism. The program focuses on traditional board work, layout composition, illustration, elemental photography and production art. Program coursework continues with training on Apple® workstations and Adobe® Creative applications as students study computer graphics, typography and production basics. Students entering the Commercial Art program should have a background in several types of art with at least basic computer experience. Drawing ability, creativity, color keenness and the ability to sit at a workstation for extended periods of time, while meeting strict deadlines, are necessary aptitudes. The Commercial Art program is an excellent prelude to advanced post-secondary training at both colleges and art schools. It allows students to prepare an extensive portfolio and even obtain college credit with participating post-secondary schools.

Digital Design/Print Media

This program provides a comprehensive approach to the printing industry. From the beginning concept to final product, students take print jobs through the entire production process from electronic files to complete prepress, through offset printing and professional finishing. This program provides a national certification for all students through the Graphic Arts Education and Research Foundation (PrintED/GAERF). Through this comprehensive exploration of graphics and desktop publishing, students cover the fundamentals of page layout, job work flows to digital printers, CTP platemaking, offset press operation and finishing operations in addition to the repurposing of digital information using the Adobe® Creative Suite for the visual communications industry.

Photography and Digital Imaging

The Photography and Digital Imaging program has a carefully structured curriculum that allows students to gain real world experience in digital media while encouraging students to specialize in the medium of their choice. Students begin their photographic education by developing an understanding of the basic technical skills, along with using their own individual creative talent. Beginning with the camera, students learn the understanding of aperture, ISO, shutter speeds, focal length and depth of field. Students enrolled in this course will gain competency in capturing and producing photographs, using several different digital image file formats (JPG, TIF, RAW). Each individual student will acquire the knowledge to properly prepare and produce digital files, using postproduction software along with the printing of a finished product. The use of different lighting techniques will be taught using both traditional hot lights along with Commercial Studio Strobes. Successful students will acquire and show a formal knowledge of photography through the production and presentation of their own portfolio at the end of the course, along with designing and making their own logo, business card, letterhead and resume.

Part-Day Programs

Construction Cluster

The Construction Cluster is a half-day, foundational program, which introduces students to careers in the construction industry. Students receive basic instruction in carpentry and construction practices, painting and finishing, landscaping, electricity, masonry, HVAC and plumbing. This program is open to students in grades ten or eleven who plan to apply for admission into one of the full-day senior programs at the Construction Technologies Center of the Brownstown Campus. In addition to learning basic skills related to the construction trades, students learn the basics of hand and power tools, power equipment, blueprint reading, and trade-related math. The program offers students exposure to site work, concrete forming, rough framing, exterior and interior finishing, energy conservation, drywall installation, residential and commercial painting, and wood finishing. Students are also exposed to basic electricity and plumbing. Masonry instruction includes the development of clay and shale brick and concrete block, paving with masonry materials, creating arches, laying stone, and preparing and pouring concrete. This program stresses problem solving and employability skills necessary for career success.

Culinary Cluster

Culinary Cluster is a half-day foundational program of study which introduces students to the culinary related career areas of cooking, baking, restaurant service techniques, and the hospitality industry. This program is offered to students in grades ten or eleven who plan to apply for admission into one of the full day senior programs at the Culinary Arts Center located at the Mount Joy Campus. Students learn baking techniques by preparing quick breads, cakes, pies, and cookies. Students will learn basic cooking methods along with preparing breakfast foods, soups, salads, sandwiches, fast foods, stocks and the presentation of food. Students also learn retail skills by selling foods that they prepare in class. Working in the food service industry requires excellent hygiene and an emphasis on safety and sanitation (lab cleanup). For success in the Culinary Cluster, an individual must have excellent hand-eye coordination, good arithmetic skills to measure ingredients accurately, the ability to work quickly, strength to lift heavy pots and pans, ability to work with others, and the stamina to stand for long periods of time.

Health Care Cluster

The Health Care Cluster program is a foundational program offered on a half-day basis to students in grades ten or eleven. This program is extremely valuable for students who want to pursue a career in the health care field and is especially important for

those who are trying to decide which health career path to select. The program is intended for students who plan to apply for a full-day Health Care Center program for their senior year of high school. Many health careers involve direct interaction with patients, which requires excellent communication skills. Health care professionals typically work as part of a team to provide care. They must pay close attention to details to ensure the good health of their patients. Students learn basic clerical and clinical skills. They study anatomy and physiology, medical terminology, medical law and ethics, history of health care, effective teamwork, communication skills, health care financing, and health care safety.

Introduction to Health Careers

The Introduction to Health Careers Program at the Lancaster County Career & Technology Center is a half-day academic program for seniors, allowing students to attend both the LCCTC and their sending high school to fulfill college preparatory academic requirements. The program gives students an overview of the health care system and an introduction to health care careers. Through an affiliation with Harrisburg Area Community College, the College in the High School program provides students the opportunity to earn six college credits, transferable to a college of their choice. A unique feature of the program is that health care professionals from the Lancaster Regional Medical Center, Ephrata Community Hospital, The Heart of Lancaster, Lancaster General Suburban Outpatient Pavilion, Schreiber Pediatrics, Lancaster Cancer Center, Susquehanna Valley Emergency Medical Services, and other health/medical facilities provide job shadowing opportunities and career information. Classroom instruction includes anatomy, physiology, medical terminology, medical law, ethics, history of health care, health care economics and safety. Classroom activities and job shadowing provide practice or observation in core skills required in a clinical setting. Students must have excellent reading skills and a good foundation in algebra, chemistry and biology.

Manufacturing Cluster

The Manufacturing Cluster program is an introductory program offered on a half-day basis to students in grades ten or eleven. The program focuses on necessary core metalworking skills and prepares students for admission into one of the full-day senior programs at the Advanced Manufacturing Center at the Mount Joy Campus. Students gain useful knowledge of hand tools and machine tools and learn a variety of metal forming processes. The program is designed to allow students the opportunity to explore employment possibilities in metalworking. Students investigate three areas of study, including electro-mechanical engineering technology, sheet metal fabrication, and welding. In the electro-mechanical engineering technology phase, students gain experience in basic maintenance and repair, electronics, and sensor technology. The sheet metal fabrication phase introduces students to various skills used in the layout, cutting, forming, and joining of sheet metal. Skills gained in this area are used in employment as a sheet metal mechanic working in roofing, siding, spouting, HVAC ductwork, and custom metal fabrication. The welding phase provides basic training in tig, mig, oxyacetylene, and electric arc welding, which may lead to employment in industrial fabrication, custom welding applications, and repair work.

Transportation Cluster

The Transportation Cluster is a half-day foundational program of study designed for students in grades ten or eleven who plan to apply for a full-day Transportation Technologies Center program at the Willow Street Campus during their senior year. Instructors combine classroom training and hands-on experiences to prepare students in three areas related to transportation: auto mechanics, diesel mechanics, and small engine mechanics. The study of auto and diesel mechanics covers electrical, cooling, exhaust systems, tires and wheels, seals and gaskets, and preventive maintenance. During the small engine curriculum, students learn disassembly of engines and examination of parts, reconditioning and replacement of parts, diagnosis of malfunctions, and adjustment and repair of fuel systems. All three areas include safety instruction, identification, use of hand and power tools, and use of various fasteners. This program is designed as an entry-level, preparatory program, which has been developed specifically to provide students with the basic skills needed to apply for admission to one of the LCCTC full-day Transportation Technologies Center senior programs and give students skills they will use for their entire life.

Visual Communications Cluster

The Visual Communications Cluster program is a foundational program offered on a half-day basis to students in grades ten or eleven. This program is extremely valuable for students who want to pursue a career in the visual communications field. Students explore and learn specific skills related to a variety of visual communications careers. It is especially important for those who plan to apply for a full-day Visual Communications Center program at the Brownstown Campus during their senior year of high school. Students learn visual and graphic design basics, internet concepts, and web design principles. Instruction also includes: electronic imaging, color theory, basic drawing, typography, plate making, offset press operation, bindery, pre-press procedures, photography, video-editing and production, and an orientation to desktop publishing. This program is designed as an entry-level, foundational program, which has been developed specifically to provide students with the basic skills needed to apply for admission to one of these LCCTC full-day senior programs: Commercial Art, Digital Design/Print Media, or Photography and Digital Imaging.

CAREER PATHWAYS