

MONTOUR HIGH SCHOOL



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COURSES OF STUDY

2017 – 2018 SCHOOL YEAR

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MISSION STATEMENT

The mission of the Montour School District is to provide an exemplary and challenging educational experience that enables all students to achieve maximum potential, to respect self and other, to become a responsible and productive citizen in a global society and to develop a lifelong enthusiasm for learning.

VISION STATEMENT

The Montour School District is committed to providing its community with a dynamic learning environment that fosters a love of learning and a respect of self and others in an increasingly diverse society. Montour is committed to high standards in the classroom through rigorous expectations. Striving for excellence in all endeavors is the benchmark that all faculty and staff members and students are expected to achieve.

CORE VALUES

Honesty

As members of the Montour Education Community we commit to conduct reflective of the highest moral standard and in so doing we pledge to be straightforward, fair and compassionately direct using truth as a base for all interaction.

“Make honor a matter of daily living!”

We are truthful in our interaction with each other, complete our obligations, and hold each other and ourselves accountable for decisions and actions.

Respect

As members of the Montour Education Community we pledge to honor all people by building a foundation of trust based upon an ethos of listening, seeking to understand, accepting differences and at all circumstances treating everyone with dignity.

“Treat others as we expect to be treated!”

We operate in the spirit of cooperation by keeping promises and honoring human dignity through the acceptance of individual differences.

Integrity

As members of the Montour Education Community we pledge to conduct reflecting an ethic of moral behavior in all of our decisions at all times.

“Do the right thing!”

We pledge unwavering ethical, legal, and socially moral responsibility at all times.

Putting Children First

At Montour we are devoted to knowing the needs of every child and to tailoring our decisions to best serve the children in such a way that each learner is afforded the opportunity to achieve her or his full potential.

“The well-being of children above all else!”

We are committed to knowing the needs of every child and to make decisions that best serve all children.

Supporting a Growth Mindset

At Montour we believe that all people have the potential of limitless growth, unique ingenuity and expanding intelligence through inspired dedication to the principles of hard work, resilience, persistence and personal responsibility.

“Effort produces results!”

We believe that the principles of hard work; resilience, persistence and personal responsibility lead to a life of limitless personal growth, and expanding intelligence.

Creating a Learning Culture

At Montour we are committed to stimulating empowered learning opportunity for all those we serve through a culture delineated by reflection, flexibility, engagement and personalization.

“Leading in the age of empowerment!”

We believe in a learning culture founded on the principles of reflection, engagement, empowerment and personal responsibility.

SCHOOL AND COMMUNITY FACTS

Montour High School, located in the suburbs four miles west of Pittsburgh, PA, services the communities of Robinson Township, Kennedy Township, Pennsbury Village, Ingram and Thornburg Boroughs. Montour High School is accredited by the Middle States Association of Colleges and Secondary Schools and the Pennsylvania Department of Education.

The building principal, assistant principals and dean of students are the instructional leaders for the professional staff, comprised of approximately eighty teachers, four guidance counselors, and multiple support staff. Referred to as the Hilltop, Montour High School offers academics, athletics and extra-curricular and co-curricular activities to provide a productive and fulfilling education for all students.

“Hard Work Makes Dreams Come True”
- Howard Ferguson

PRINCIPAL'S MESSAGE

Dear MHS Student,

The *Montour High School Courses of Study* has been prepared to assist you in planning your educational program at Montour High School. It provides information about many areas of interest for you to be successful, during your high school education. Various courses are offered to fulfill your needs, abilities, and interests. Please review the options and be certain you are selecting courses needed to complete graduation requirements and prepare for your post-secondary goals.

In preparation for the 2017-2018 school year, you will receive a *Course Selection Sheet* on which you will indicate your course selections. Directions for completing the course selection sheet will be provided by your School Counselor. You will share the selection sheet with each of your Teachers for review and recommendations. Please work collaboratively with your Teachers and School Counselor to identify the courses for your planned program of study.

If you have any questions about your course selections or post-secondary goals, please take the time to schedule an individual student academic planning meeting with your School Counselor. Enjoy the remainder of the 2016-2017 school year. I wish you great success in all of your academic, extra-curricular and co-curricular endeavors.

Sincerely,

Mr. Todd M. Price

Mr. Todd M. Price
MHS Principal

CALENDAR OF COURSE SELECTIONS ACTIVITIES FOR MHS STUDENTS

Dear MHS Parent/Guardians and Students,

In preparation for course selections for the 2017-2018 school year please carefully review the calendar of activities below. I encourage all parent/guardians to attend the *Academic Planning Night* on Monday, February 6th in preparation for student course selections.

- **Academic Planning Workshops Note:** Administration will review *2017-2018 Courses of Study* and *Calendar of Course Selections Activities* with students.
 - Wednesday, February 1st – Friday, February 3rd
- **Academic Planning Night Note:** Administration will review the *2017-2018 Courses of Study* and *Calendar of Course Selections Activities* with parent/guardians.
 - Monday, February 6th (6:30 PM High School Auditorium)
- **Course Selections Workshops with School Counselors Note:** Students will review the *2017-2018 Courses of Study*, will receive their *Course Selections Sheet* and will receive additional information specific to course selections activities.
 - Week of February 6th
- **Course Selections, Teacher Recommendations and Course Selections Sign-Offs Note:** Students will work with their teachers to review and select their core and elective courses for the 2017-2018 school year. Teachers will recommend and sign-off on course pre-requisites.
 - Week of February 6th
- **Course Selection Sheets Due**
 - Monday, February 13th
- **Submission of Course Selections with School Counselors Note:** Students will work with School Counselors specific to the submission of their course requests.
 - Monday, February 13th – Thursday, February 16th
- **Deadline for Submission of 2017-2018 Course Selections**
 - Thursday, February 16th

The *2017-2018 Courses of Study* will be available for review, via the MHS website, the week of January 30th in preparation for the course selection activities, as outlined above.

Please contact your child's School Counselor should you have questions specific to any of the information above.

Sincerely,

Mr. Todd M. Price

Mr. Todd M. Price
MHS Principal

CALENDAR OF COURSE SELECTIONS ACTIVITIES FOR EIGHTH GRADE STUDENTS

Dear DEW Eighth Grade Parent/Guardians and Students,

In preparation for course selections for the 2017-2018 school year please carefully review the calendar of activities below. I encourage all parent/guardians to attend the *Academic Planning Night* on Monday, February 13th in preparation for student course selections.

- **Academic Planning Workshop Note:** Administration will review *2017-2018 Courses of Study* and *Calendar of Course Selections Activities* with students.
 - Monday, February 13th
- **Academic Planning Night Note:** Administration will review the *2017-2018 Courses of Study* and *Calendar of Course Selections Activities*.
 - Monday, February 13th (6:30 PM High School Auditorium)
- **Course Selections Workshops with School Counselors Note:** Students will review the *2017-2018 Courses of Study*, will receive their *Course Selections Sheet* and will receive additional information specific to course selections activities.
 - Week of February 13th
- **Course Selections, Teacher Recommendations and Course Selections Sign-Offs Note:** Students will work with their teachers to review and select their core and elective courses for the 2017-2018 school year. Teachers will recommend and sign-off on course pre-requisites.
 - Week of February 13th
- **Course Selection Sheets Due**
 - Tuesday, February 21st
- **Submission of Course Selections with School Counselors Note:** Students will work with School Counselors specific to the submission of their course requests.
 - Tuesday, February 21st – Friday, February 24th
- **Deadline for Submission of 2016-2017 Course Selections**
 - Friday, February 24th

The *2017-2018 Courses of Study* will be available for review, via the MHS website, the week of January 30th in preparation for the course selection activities, as outlined above.

Please contact Mrs. Jodi Williams, DEW Grade Eight School Counselor, should you have questions specific to any of the information above.

Sincerely,

Mr. Todd M. Price

Mr. Todd M. Price
MHS Principal

MONTOUR HIGH SCHOOL GRADUATION REQUIREMENTS (Academic Requirements)

A minimum of twenty-five and one-quarter (25.25) credits are required for graduation. These credits must be earned in grades nine, ten, eleven and twelve.

The minimum of twenty-five and one-quarter (25.25) credits shall include the following:

<u>Credits</u>	<u>Departments</u>
4.0	English
4.0	Social Studies
4.0	Mathematics
3.0	Science
1.0	Physical Education/Health
.25	Family and Consumer Sciences (Financial Literacy)
9.0	Electives

25.25 Credits

MONTOUR HIGH SCHOOL GRADUATION REQUIREMENTS (Keystone Exams – Algebra I, English Literature, Biology)

The Keystone Exams are assessments that have been created by the Pennsylvania Department of Education designed to assess a student’s understanding of those concepts and skills that are included in the subject areas of Algebra I, English Literature, and Biology. Students enrolled in one or more of the following courses will take the corresponding Keystone Exam, during the identified testing window in the month of May... Algebra I, Algebra I B, English 10/Honors English 10, Biology/Honors Biology. As per Montour School District Policy #217, students must demonstrate proficiency (pass) each of the aforementioned exams to graduate from Montour High School. Students, who do not demonstrate proficiency (pass) one or more of the exams, will be required to participate in a supplemental instruction program (Seminar Course) in preparation for a retest(s). Students, who are unable to demonstrate proficiency (pass) one or more retests, will be required successfully complete all of the requirements of the corresponding Seminar Course. In order to receive a diploma, students must also meet local district credit and attendance requirements along with any additional district requirements.

PROMOTION AND CREDIT REQUIREMENTS

Students are given grade level status based upon their successful completion of course work. Students, in grades nine and ten, are required to schedule a minimum of seven (7) credits per year. Students, in grades eleven and twelve, are required to schedule a minimum of six (6) credits per year with the option of scheduling a semester or full-year study hall within the academic schedule. **Note:** Student must be ‘in good academic standing’ to schedule a semester or full-year study hall within the academic schedule. Students in ‘good academic standing’ have not failed a full-year or semester course, during grades nine – twelve and have successfully completed/passed all Keystone Exams.

SCHOLASTIC INTEGRITY

Montour High School is committed to encouraging strict standards of academic integrity and committed to helping students develop intellectually, creatively, and ethically. Honesty in all school work is considered essential in adhering to the standards. Cheating and plagiarism are both forms of academic dishonesty and will not be tolerated as acceptable behaviors.

Cheating is defined as the submission of work that is not one's own. Plagiarism is the use of another person's ideas or words without giving proper credit. Both cheating and plagiarism are serious offenses.

It is the responsibility of all students to maintain scholastic integrity with regard to class assignments, exams, and any other graded course requirements. Thus, cheating, plagiarism and/or knowingly assisting another student to violate scholastic integrity are all violations of the above mentioned.

All scholastic integrity violations will be reported to the High School Administration. Please see the Montour High School Student/Parent Handbook for additional information about Scholastic Integrity.

GRADING SCALE AND QUALITY POINTS

		Academic	Honors	CHS & AP
98 – 100%	A+	4.25	4.75	5.25
93 – 97%	A	4.0	4.5	5.0
90 – 92%	A-	3.75	4.25	4.75
87 – 89%	B+	3.25	3.75	4.25
83 – 86%	B	3.0	3.5	4.0
80 – 82%	B-	2.75	3.25	3.75
77 – 79%	C+	2.25	2.75	3.25
73 – 76%	C	2.0	2.5	3.0
70 – 72%	C-	1.75	2.25	2.75
67 – 69%	D+	1.25	1.75	2.25
63 – 66%	D	1.0	1.5	2.0
60 – 62%	D-	0.75	1.25	1.75

GRADING PERIOD ASSIGNED WEIGHTS

The following are the weighted percentages for the four nine week grading periods and the mid-term and final examinations (full-year and semester courses).

Full-Year Courses

First Nine Weeks – 20%

Second Nine Weeks – 20%

Mid-Term Examination – 10%

Third Nine Weeks – 20%

Fourth Nine Weeks – 20%

Final Examination – 10%

Semester Courses

First Nine Weeks – 40%

Second Nine Weeks – 40%

Final Examination – 20%

Note: The established grading scale floor for the first, second, third, and fourth nine week reporting periods is fifty (50) percent. The mid-term and final examinations will not have a grading scale floor.

MID-TERM AND FINAL EXAMINATIONS

In accordance with the Montour School District Strategic Plan, Montour High School, will administer mid-term and final examinations to students, in grades nine through twelve, to ensure that the benchmarks and standards put forth by the Strategic Plan and the planned course of study in each discipline are being met by the students. In order to fairly evaluate the students who are attaining this goal, a systematic scoring weight must be put in place so that students, teachers, and parent/guardian(s) fully understand the importance of these examinations and the performances which they are measuring. Hence, the weight assigned to the mid-term examination will count as ten (10) percent of the student's final grade for the course and the final examination will count as ten (10) percent of the student's final grade for the course. Final examinations to be administered in semester courses and will count as (20) percent of the student's final grade for the course. Note: Mid-term and final examinations will not have an established grading scale floor.

CLASS RANK

Rank in class is the position of any one student in the graduating class in relation to all other students in that cohort. A student's class rank is determined by the Quality Point Average (QPA) which includes weighted courses (WQPA). QPA is based on all classes to which a letter grade is assigned. A student's class rank is computed for the first time at the end of the first semester of the freshmen year and recomputed at the end of each succeeding semester through the senior year.

WEIGHTED GRADES

Course offerings which carry weighted quality points are identified by department in the individual course description. Weighted courses are identified by **(1 credit*)**. The weighted quality points associated with *Honors*, *AP*, and *CHS* courses is noted within the *Grading Scale* and *Quality Points* table on page ten.

HONORS CRITERIA FOR ACADEMIC COURSES

Course offerings in the area of *Honors*, *Advanced Placement (AP)*, or *College in the High School (CHS)* are identified by department in the individual course description. The quality and quantity of work expected from each student is much different than a regular track course. These rigorous and comprehensive courses focus on student research, writing, and higher cognitive skill sets. The involvement of each individual students enrolled in these courses will require greater time out of the normal classroom meeting time to complete assignments and studies. **It is expected that students who begin honors level courses, in ninth grade, continue to schedule and take *Honors*, *AP*, and/or *CHS* course work throughout their high school career.** All students who meet the prerequisites for these courses are encouraged to schedule and participate in these courses. **MHS students are encouraged to schedule rigorous/academically challenging course work.**

HONOR ROLL CRITERIA

Honor Roll for each nine week grading period is computed as follows:

- Any student whose quality point average is **3.0** and above qualifies for the Honor Roll.
- Any student whose quality point average is **4.0** and above qualifies for the High Honor Roll.
- A failing grade in any subject automatically disqualifies eligibility for Honor Roll or High Honor Roll.

GRADUATION RECOGNITIONS

Graduation recognition will be determined as follows:

- Students with GPAs' from **3.0 to 3.9** will be acknowledged as graduating with *Honors*.
- Students with GPAs' from **4.0 to 4.24** will be acknowledged as graduating with *High Honors*.
- Students with GPAs' **4.25** and above will be acknowledged as graduating with *Distinguished Honors*.

COMMENCEMENT

If a student does not complete all aspects of their requirements at Montour High School, that student will not be permitted to attend the commencement ceremony with their graduating class. All obligations must be fulfilled prior to commencement. The following situations would exclude one from the commencement exercise:

- Failure to meet state and district attendance policy requirements
- Failure to pay a debt owed to the Montour School District prior to commencement practice (to include, but not limited to, academic, extra-curricular and co-curricular, athletic, etc...)
- Failure to complete class/credit requirements
- Failure to attend all commencement practices
- Failure to attend the *Senior Class Academic Achievement Awards Program*
- Failure to complete state health mandates
- Failure to consistently adhere to the *MHS Student/Parent Handbook*

EARLY GRADUATION

By carefully scheduling and earning credits outside the normal school day and school year, students may be able to satisfy graduation requirement earlier than a traditional student over four years. Application for early graduation can be made through the student's school counselor and will be approved by building principal and Superintendent of Schools.

MONTOUR HIGH SCHOOL COUNSELING DEPARTMENT

Montour High School Counselor's Mission Statement

The Mission of the Montour High School Counseling Program is to enable all high school students, grades nine - twelve, to experience educational success by providing guidance in the areas of academic, career, and personal/social development; counseling to help students overcome challenges that interfere with learning; and advocacy for an environment that supports high achievement for *all* students. Through our comprehensive developmental model we will assist all students in acquiring the skills, knowledge, and attitudes needed to become effective students, responsible citizens, productive workers and lifelong learners.

Foundation

The Montour School District adopted the American School Counselor Association's National Standards in 2007. The standards address three domain areas:

- Academic Development
- Career Development
- Personal/Social Development

The standards serve as the framework for the development as measurable student competencies based upon the local needs and concerns of each school building.

Delivery

Professional school counselors provide educational support through the following delivery systems:

- **Guidance curriculum delivered in the classroom or group sessions**
 - Topics may include but are not limited to:**
 - Academic skills support
 - Organizational, study and test-taking skills
 - Post-secondary planning and application process
 - Career planning
 - Education in understanding self and others
 - Coping strategies
 - Peer relationships and effective social skills
 - Communication, problem-solving, decision-making, conflict resolution and study skills
 - Career awareness and the world of work
 - Substance abuse education
 - Multicultural/diversity awareness
 - SAT/ACT information
- **Individual and group student planning, advisement and guidance**
 - Goal setting
 - Academic plans
 - Career plans
 - Problem solving
 - Education in understanding of self, including strengths and weaknesses
 - Transition plans

- **Responsive services**
 - Individual and small-group counseling
 - Individual/family/school crisis intervention
 - Peer facilitation
 - Consultation/collaboration
 - Referrals
- **System Support**
 - Professional development
 - Consultation, collaboration and teaming
 - Program management and operation

Management

School counselors use data to drive decisions, develop yearly action plans to reflect student needs and monitor student progress.

Accountability

School counselors measure the results of their program on a yearly basis and use this data to make decisions regarding program improvement.

Guidance Curriculum

The following school counseling curriculum is offered at Montour High School:

NCAA APPROVED COURSES INFORMATION FOR COLLEGE BOUND STUDENT-ATHLETES

Students intending to pursue Division I or II athletics in college must meet certain eligibility requirements. For more information, please see your school counselor and/or visit www.naaclearinghouse.net for specific requirements.

The NCAA has approved the following courses for use in establishing the initial eligibility certification status of student-athletes. **Note:** At the time of publication current course offerings and additional course offerings were under review by the NCAA Clearinghouse. Any additions or deletions to the courses below will be publicized by the high school counseling department. Those courses that are currently under review by the NCAA Clearinghouse are noted with an asterisk (*).

English Department

English 9 and Honors English 9

English 10 and Honors English 10

English 11 and Honors English 11

English 12, Honors English 12

AP Language and Composition and AP Literature and Composition

Social Studies Department

US History 9 and Honors US History 9

US History 10 and Honors US History 10

Global Studies and Honors Global Studies

Economics, Honors Economics, CHS Economics

Political Systems, Honors Political Systems, CHS American Politics

Math Department

Algebra I Part A (**0.5 credit only**), Algebra I Part B (**0.5 credit only**), Algebra I

Algebra II and Honors Algebra II

Geometry and Honors Geometry

Trigonometry, Pre Calculus/Trigonometry, Honors Pre Calculus/Trigonometry, Algebra III

Honors Calculus, AP Calculus AB, AP Calculus BC, CHS Business Calculus, Calculus III

Statistics, CHS Statistics

Science Department

Fundamentals of Chemistry and Physics

Biology, Honors Biology, CHS Biology, Honors Anatomy and Physiology, CHS Anatomy and Physiology

Principles of Biomedical Sciences, Human Body Systems, Medical Interventions, Biomedical Innovations

Biological and Environmental Engineering

Chemistry, Honors Chemistry, CHS Chemistry, AP Chemistry, Organic Chemistry

General Physics I, General Physics II, Honors Physics I, CHS Physics

Botany, CHS Environmental Science

Astronomy I and II and Honors Astronomy

CHS Introduction to Meteorology, Meteorology I and Meteorology II

Forensics

World Languages

French I, II, III and Honors French III, IV, V

Spanish I, II, III and Honors Spanish III, IV, V

German I, II, III and Honors German III, IV, V

Mandarin Chinese I, II, III, IV

PROJECT BASED LEARNING COURSE OF STUDY

Project Based Learning (0013) - This course is designed to enhance research and critical thinking skills. Throughout this course students will explore authentic, important and meaningful questions that affect their lives. Students will be expected to work in both small groups and independently to develop new projects that enhance the school and community and design new products and/or work with community partners to problem solve authentic real-world problems. Through a dynamic process of investigation and collaboration and using the same processes and technologies that real scientists, applied mathematicians and engineers use, students will work in teams to formulate questions, make predictions, design investigations, collect and analyze data, make products and share ideas. Students will have the opportunity to engage in human centered design thinking strategies that will further enhance the project based learning experience. (.5 credit)

ENGLISH DEPARTMENT COURSES OF STUDY

Note on Course Prerequisites: Letter grade course prerequisites for Honors, AP, and CHS courses are noted within the course descriptions that follow. In addition, AP Potential will be utilized as a data source for assisting teachers, parent/guardian(s), and students with selecting AP courses. Parent/guardian(s) will receive an AP Potential letter during the scheduling window that will offer insight into a student's predicted ability to receive a score of a (3) or higher on the course specific AP test.

English 9 (0112) – This year-long course will develop the student's ability to analyze and write about literature. In adherence to the PA ELA Core Standards, students will be exposed to various literary devices and will be expected to construct grammatically and structurally sound compositions, as well as prepare for the Keystone English Literature and Keystone Composition Exams. Students will also begin to prepare for the SAT/ACT exams. Students will increase vocabulary skills through various reading, writing, and speaking activities. Grades will be based on tests and quizzes, completed homework assignments, class participation, oral presentations, and compositions. **(1 credit)**

Honors English 9 (0111) – This year-long course is an intensive reading and writing class designed for students intending to continue in the Honors/AP programs throughout their academic career. In adherence to the PA ELA Core Standards, students will read and critically analyze various works of literature, write several analytical compositions, as well as prepare for the Keystone English Literature and Keystone Composition Exams. Students will also begin to prepare for the SAT/ACT exams. Students will be awarded honors credit for this course. Course Prerequisites: Final grade of an "A" in English 8 and a recommendation from the English 8 teacher. **(1 credit*)**

English 10 (0122) – In adherence to the PA ELA Core Standards, this year-long course is designed to develop the student's ability to analyze and write about literature. Students will be exposed to the recognition and application of various literary devices. SAT based vocabulary, grammar instruction, analytical and research paper writing, public speaking presentations, and preparation for the Keystone English Literature Exam are all components of this course. Grades will be based on tests and quizzes, completed homework assignments, including preparation for the SAT/ACT exams, class participation, Socratic Seminar discussions, learning-based projects, presentations, and compositions. **(1 credit)**

Honors English 10 (0121) – This year-long course is an intensive reading and writing course designed for students intending to continue in the Honors/AP programs throughout their academic career. In adherence to the PA ELA Core Standards, students will read and critically analyze various works of literature, write several analytical compositions, as well as prepare for the Keystone English Literature Exam. Grades will be based on tests and quizzes, completed homework assignments including preparation for the SAT/ACT exams, class participation, Socratic Seminar discussions, learning-based projects, presentations, and compositions. Students will be awarded honors credit for this course. Course Prerequisites: Grade of an "A" in Honors English 9 or a "B" with a recommendation from the Honors English 9 teacher. Students not enrolled in Honors English 9 must receive an "A" in English 9 and have a recommendation from the English 9 teacher along with the submission of multiple writing samples. **(1 credit*)**

English Literature Seminar (0126) - Students, who are currently taking English 10 or Honors English 10 and who do not score proficient or advanced on the Keystone English Literature Exam, will be required to take this course the following school year, in addition to, their scheduled core English course. The English Literature Seminar course will provide students with additional instruction in preparation for the Keystone English Literature Re-Test. **Notes:** A score of proficient or advanced on the Keystone English Literature Exam is a requirement for graduation from Montour High School. The School Counseling Department will contact the parent/guardian of students, who will be scheduled to take the English Literature Seminar course, after the Keystone English Literature Exam results are made available. English Literature Seminar is a Pass/Fail course. **(1 credit)**

English 11 (0123) – This year-long course emphasizes two areas: the survey of American Literature and the process of composition. The historical development of American Literature is traced from the Colonial to contemporary times, linking the development of American Literature to the philosophical and historical events occurring during various periods. Students will approach this literature through novels, short stories, drama, poetry, essays, various analytical compositions, and a research paper. In adherence to the PA ELA Core Standards, students will read closely to determine what the text says explicitly and implicitly, citing specific evidence to support conclusions. When writing, students will carefully consider task, purpose, and audience while choosing words, information, structures, and format deliberately. Students will take part in a variety of productive, structured conversations-as part of a whole class, small groups, or with a partner-building on others’ ideas and expressing their own clearly and persuasively. Additionally, vocabulary development through the study of root words and prefixes will be utilized and attention will also be given to SAT/ACT preparation. Grades are based on tests and quizzes, completed homework assignments, class participation, learning-based projects, presentations, and compositions. **(1 credit)**

Honors English 11 (0131) – This year-long course focuses on a thorough treatment of American Literature with emphasis placed upon reading comprehension, vocabulary in context, and development of compositional skills. In adherence to the PA ELA Core Standards, students will read closely to determine what the text says explicitly and implicitly, citing specific evidence to support conclusions. When writing, students will carefully consider task, purpose, and audience while choosing words, information, structures, and format deliberately. Students will take part in Socratic Seminar discussions, building on others’ ideas and expressing their own clearly and persuasively. Additionally, vocabulary development through the study of root words and prefixes will be utilized and also attention will be given to SAT/ACT preparation. Course Prerequisites: Grade of an “A” in Honors English 10 or a “B” with a recommendation from the Honors English 10 teacher. Students not enrolled in Honors English 10 must receive an “A” in English 10 and have a recommendation from the English 10 teacher, along with submission of multiple writing samples. **(1 credit*)**

AP Language and Composition (0130) – The AP English Language and Composition program is a year-long course for eleventh graders only. In adherence to the PA ELA Core Standards, students will read closely to determine what the text says explicitly and implicitly, citing specific evidence to support conclusions. When writing, students will carefully consider task, purpose, and audience while choosing words, information, structures, and format deliberately. Students will take part in a variety of productive, structured conversations-as part of a whole class, small groups, or with a partner-building on others’ ideas and expressing their own clearly and persuasively. Students will analyze voice, diction, detail, imagery, syntax, and tone) to gain a deeper understanding of language and literature. Through reading

and writing, students will become aware of the interaction between a writer's purpose, audience expectations, and subjects, as well as the way conventions and rhetorical devices contribute to effective writing. This is an intensive writing course that will prepare college-bound students for freshman English and college composition courses. Additionally, advanced vocabulary study and mastery of rhetorical strategies and devices are developed. Included is a literature component with in-depth research, reading, and writing analysis. SAT/ACT skills are reinforced through Method Test Prep. Course Prerequisites: Grade of an "A" in Honors English 10 or a "B" with a recommendation from the Honors English 10 teacher and submission of multiple writing samples. **Note on AP Exam:** Student participation in the end-of-course AP Exam is optional. Students who participate in the AP Exam will be required to pay the cost for registration. **Note:** To participate in this course, successful completion of summer reading and writing assignments are required. **(1 credit*)**

English 12 (0124) – In adherence to the PA ELA Core Standards, this year-long course will analyze classic literature components from varying genres, time periods, and origins; and an emphasis will be dedicated to British literature, linking the development of British Literature to philosophical and historical events. The students will approach literature through a study of fiction, non-fiction, poetry, drama, various analytical compositions, and a research paper. Grades are based on tests and quizzes, completed homework assignments, class participation, learning-based projects, presentations, and compositions. **(1 credit)**

Honors English 12 (0141) – This year-long course is offered to those who excel in literature and composition. In adherence to the PA ELA Core Standards, the program focuses on a thorough treatment of British Literature with emphasis placed upon reading comprehension, vocabulary in context, and mastering compositional skills. Course Prerequisites: Grade of an "A" in Honors English 11 or a "B" with a recommendation from the Honors English 11 teacher. Students not enrolled in the Honors or AP Programs must have an "A" and a recommendation from the English 11 teacher, along with submission of multiple writing samples. **(1 credit*)**

AP Literature and Composition (0140) – This year-long, intensive reading and writing course offered to twelfth graders examines the recognized classics of World Literature. In adherence to the PA ELA Core Standards, students will read the works of authors ranging from Sophocles to Shakespeare to Sartre and critically analyze aspects of these works in detailed written assignments, as well as Socratic Seminar discussions. An examination of vocabulary through literature, figurative language, and literary techniques will remain a focus throughout the course. This course will prepare college-bound students for freshman English, college composition, and literature courses. Course Prerequisites: Grade of an "A" in AP Language/Composition or a "B" with a recommendation from the AP Language teacher. For Honors English 11 students, placement will be contingent upon an "A," a recommendation from the Honors 11 English teacher, along with submission of multiple writing samples for review. **Note on AP Exam:** Student participation in the end-of-course AP Exam is optional. Students who participate in the AP Exam will be required to pay the cost for registration. **Note:** To participate in this course, successful completion of summer reading and writing assignments is required. **(1 credit*)**

Survey of World Literature - English 12 (0149) – This year-long literature course emphasizes comprehension, critical thinking, and writing strategies. In adherence to the PA Core Standards, students will be provided explicit strategy instruction to support comprehension skills in both World Literature and content area supplemental texts. Additionally, students will develop an awareness of the

effective writing strategies they currently use and build upon those strategies in both practical and professional applications. The students will approach this course of study through all genres of fiction, non-fiction, poetry, drama, etc. An enhanced utilization of writing techniques will be achieved through analytical compositions, creative projects, and a research project. **Note:** The selection of this course is solely based upon teacher recommendation. **(1 credit)**

ENGLISH DEPARTMENT ELECTIVE COURSE OFFERINGS

Note: The following course electives and/or combination of course electives will not be approved as a replacement for the required courses for graduation as described above.

Communication and Argumentation (CHS) (0150) – This year-long course is designed to introduce students to the fundamentals of research and argument construction. Defense of an argument is presented both verbally and in writing. Topics covered in this course include an introduction to argument, types of argument, construction of an argument, research methods, evidence, delivery, and refutation of arguments. The Communication and Argumentation course is taught by a University of Pittsburgh-trained instructor utilizing materials (textbooks and curriculum) designed by the Communications Department of the University of Pittsburgh. Enrollment in this course will provide you with a code to waive the application fee for the University of Pittsburgh. This course is restricted to eleventh and twelfth grade students only. Course Prerequisites: Grade of an “A” or a “B” in any core English course. For any grade lower than a “B,” a teacher recommendation is necessary for consideration. Upon successful completion of the course, students will receive three (3) college credits transferable to nearly 300 colleges and universities across the United States. (University of Pittsburgh CHS tuition rate = \$235 for three (3) credits). **(1 credit*)**

Creative Writing (0151) – This semester course is designed to explore the techniques and methods employed in writing poetry and prose. The course is aligned to the PA ELA Core Standards. Students must have prior knowledge of various writing techniques. Students will furnish samples of various styles of writing, emphasizing sincerity of expression, emotion, originality, and personal experience. This course includes a writing workshop as a method of evaluation where students will critique each other’s work. Grades will be based on writing workshops and compositions of original writings both prose and poetry. This course is for eleventh and twelfth graders. **(.5 credit)**

Contemporary Literature (0153) – Contemporary literature is a student-driven semester course designed for the individual interested in exploring popular fiction and nonfiction. Literature choices and pace are determined by the students. Previous selections have included *The Hunger Games Trilogy*, *The Perks of Being a Wallflower*, and *No Easy Day*. Students will be required to be active participants in reading and discussion. Grades will be based on class participation and project-based assignments. This course is open for students in tenth, eleventh and twelfth grade. This course addresses the PA ELA Core Standards. **(.5 credit)**

MASS MEDIA STUDIO

Mass Media Studio (0162) is an innovative program that provides students the unique opportunity to authentically explore all platforms within mass media and communication through project based learning experiences. Mass Media Studio also enables students to choose an area of focused study that is of interest to the student. All of the following courses with the exception of Introduction to Mass Media may be taken multiple times for credit and are open to students in grades nine - twelve.

Introduction to Mass Media (0156) - This year-long course is designed to lay a foundation for students and give them the beginnings of a toolkit of conceptual and practical skills in mass media and communication. This course will develop a range of skills that includes writing, editing and production for news and/or communication in print, audio, video and online. Students learn about both informative and persuasive communication in contexts that cut across the traditional barriers of print journalism, broadcast news and radio. Students participating in this course will have the opportunity to have hands-on experience with TV/Video Production, Spartan Express Radio and the Montour Monitor. This course is a prerequisite for the following courses. **(1 credit)**

Television/Video Production (CHS) (0158) – In this year-long course offered through Point Park University students study the various techniques and practices involved with creating and understanding television and video production. Students become familiar with all of the basic aspects of production such as storyboarding, script writing, camera angles and lighting protocols in addition to the post-production skills of audio and video editing. Students will be required to work both individually and in groups to complete various studio and field projects throughout the course. Students who complete the course with a final grade of 80% or higher and elect to attend Point Park University, will receive three (3) post-secondary credits that can be applied to Point Park University's *Journalism 216 TV Production Techniques II* course. **(1 credit*)**

Radio/Podcast Broadcasting (0159) - This year-long course is designed for students interested in exploring the radio portion of mass media. Students will be introduced to the necessary audio equipment and compile broadcast-worthy segments. Students will learn what makes for quality (MHS) radio stories and sources, as well as how to pitch those stories. Additionally, students will be introduced to editing software. Student participants in this course will have the opportunity to be a part of *Spartan Express Radio*, @spartanexpress. **(1 credit)**

Digital Media Production (0161) –During this year-long course, students develop professional skills essential for competence in electronic news writing, editing and web-page production. Students will study issues and problems in electronic news, learn interviewing skills and practice strong journalistic writing in order to produce a professional-quality electronic newspaper. Students work in a variety of roles—reporter, editor and website manager. Although much of the work is done in class, time after school may be necessary in order to meet publishing deadlines. Student participants in this course will have the opportunity to be a part of the *Montour Monitor* Staff, @MontourMonitor. **(1 credit)**

Drama I (0160) –This semester course is an introductory study of theatre. Students will study theatre appreciation with topics to include: history of theatre, structure of drama, evaluations of drama, films and playwrights, improvisation, and pantomime. Students will develop basic acting skills in movement, vocalization, character building, memorization, and ensemble work. This course will also study critically acclaimed dramas and films. Students will learn the dramatic elements that will enable them to appraise famous dramas and films. As Drama I is an elective within the English Department, reading and writing are interwoven throughout the curriculum. This course is open to students in grades 9-12. **(.5 credit)**

Drama II Acting (CHS) (0165) - This semester course offered through Point Park University is devoted to freeing the actor’s imagination, creativity, and impulse while also laying down the foundation of the acting process, skills, and terminology through basic acting exercises, improvisation, and scene work. The performance skills touched upon in Drama I will continue to develop in this course through topics such as text analysis, rehearsal techniques, collaboration, and listening and reacting. Students will be expected to work outside of school hours on developing these skills and grades will be based on participation, performance, classwork, and homework activities. Prerequisite: minimum of a “B” in Drama I. This course is open to students in grades 10-12. Students, who complete the course with a final grade of 80% or higher and elect to attend Point Park University, can receive three (3) post-secondary credits that can be applied to Point Park University as an elective. **(.5 credit*)**

Film and/as Literature I (0617) – This semester course is designed for students interested in developing critical thinking skills by viewing a variety of films that have made a long-lasting impression on America’s society. Students will explore details regarding characterization, plot, conflict/resolution, figurative language and other pertinent literary devices for discussion. Narrative devices common to both film and literature will be analyzed. Grades will be based on class participation, inquiry-based learning and project-based assignments. This course is open for students in tenth, eleventh and twelfth grade. This course addresses the PA ELA Core Standards. **(.5 credit)**

Film and/as Literature II (0168) – This semester course is designed for students who have successfully completed Film and/as Literature I with a “C” or higher. With a stronger emphasis on film analysis, students will explore social, historical, economic, political and artistic issues within a film and its impact on culture and society. Students will learn to make connections between word-based narrative reading and image-based narrative viewing on a critical level. Grades will be based on class participation, inquiry-based learning and project-based assignments. This course is open for students in tenth, eleventh and twelfth grade. This course addresses the PA ELA Core Standards. **(.5 credit)**

Public Speaking (0164) – Public Speaking is a semester course designed to meet the needs of students who wish to develop the ability to connect with an audience in a successful, influential manner. In this class, students will learn to develop a message with particular listeners in mind; overcome anxiety related to speaking in public; organize ideas in a purposeful, cohesive sequence; demonstrate clear and expressive use of voice, nonverbal and verbal language; motivate an audience by relating to its attitudes and levels of understanding; and formulate and present convincing arguments through reason and research. Students will learn to effectively use technology and media to enhance speeches. This course addresses the PA ELA Core Standards. **(.5 credit)**

College Entrance Exam Standardized Test Preparation (Reading/Writing) (0166) – This nine-week standardized test preparation course will familiarize students with the format of the SAT/ACT while teaching effective test-taking techniques and strategies. There will be a comprehensive review of those Reading and Writing concepts and skills that are tested, via the SAT/ACT. Students will engage in Khan Academy as the main resource for practicing those skills necessary to succeed on the SAT/ACT exams. This course is open to students in grades ten, eleven and twelve and can be scheduled and taken multiple times. **(.25 credit)**

SOCIAL STUDIES DEPARTMENT LITERACY PROGRAM

The Social Studies Department Literacy Program is driven by the desire to continue to develop the essential academic literary skills of our students so that they may have the greatest opportunity for success in life. The ability to read, and to understand what is read along with the ability to reflect upon such, via written expression, is fundamental to the quality of all stations of our students' lives. All Social Studies classes will emphasize literacy skills while aligning assignments to the PA Core Standards for Reading and Writing in History and Social Studies. As stated in the PA Core Standards, students will be expected to read, understand and respond to informational text within each course specific to that course's content area. Students will also be challenged to write for different purposes and audiences. Each course will also challenge students to write clear and focused text and to convey well-defined perspectives and appropriate content.

- All students will be required to read, discuss, analyze and reflect upon non-fiction text (books, articles, etc...) that are specific to their course of study.
- All Social Studies students will be required to respond to writing prompts, as assigned. Assigned writing prompts will reflect the PA Core Standards for Reading and Writing for History and Social Studies.

SOCIAL STUDIES DEPARTMENT COURSES OF STUDY

Note on Course Prerequisites: Letter grade course prerequisites for Honors, AP, and CHS courses are noted within the course descriptions that follow. In addition, AP Potential will be utilized as a data source for assisting teachers, parent/guardian(s) and students with selecting AP courses. Parent/guardian(s) will receive an AP Potential letter, during the scheduling window, that will offer insight into a students' predicted ability to receive a score of a (3) or higher on the course specific AP test.

U.S. History 9 (0212) – When the United States was formed, the founding fathers stated that all men had certain unalienable rights such as liberty, equality, and freedom. Did this really mean all men? This class will study the period of American history from the Civil War to pre-World War II, while focusing on how the meaning of freedom was redefined for our nation and the world. Students will analyze this era using the major themes of American history: Reform, Values, Economics, Technology, Diversity, Culture, Conflict, and Democracy. **(1 credit)**

Honors U.S. History 9 (0211) – This is an accelerated course in the study of American history between the Civil War and World War II. The issues, events, and people of this period will be examined in a manner that will improve students' comprehension of primary and secondary sources, along with the synthesis of information through categorization, generalization, and evaluation. There will be a focus on improving students' writing performance on free-response questions, along with the development of projects and portfolios. Course Prerequisites: Final grade of "A" or "B" in both eighth grade Reading and Social Studies and a recommendation from that Social Studies teacher. **(1 credit*)**

U.S. History 10 (0220) – From World War II to the present, the United States has taken the responsibility of being the world leader in the defense and protection of freedom throughout the world, yet has struggled with domestic issues of equality, social injustice, political corruption, and economic

instability. This course will examine the major issues and events, people, and places of America that defined and directed us through this period. Students will be able to show competence in the areas of research, interpretation, analysis and evaluation through written and oral presentations. **(1 credit)**

Honors U.S. History 10 (0221) – This is an advanced course of study of American history from World War II to the present. The issues, events, and people that guided our nation during this period will be studied in a manner that will improve students’ comprehension of primary and secondary sources, along with synthesis of information through categorization, generalization, and evaluation. There will be a focus on improving student writing performance on free response questions, along with the development of projects and portfolios. Course Prerequisites: Final grade of “A” or “B” in Honors U.S. History 9. Students not enrolled in Honors U.S. History 9 must receive a final grade of “A” or “B” in U.S. History 9 and must have a recommendation from that Social Studies teacher. **(1 credit*)**

Grade Eleven – All eleventh grade students are required take one of the following courses as detailed below:

Global Studies (0225) - This year-long course will closely examine the various regions of the world and develop significant understandings of the role that these regions have in today’s society. The class will focus specifically on the history, culture and geography from the Renaissance to the present. In this course, students will locate and identify specific geographic areas, and analyze their interrelationships to current social, political, military, and economic world events. Students will also study how demographics play a role in governmental, business, and personal decisions. **(1 credit)**

Honors Global Studies (0231) – This year-long course will closely examine the various regions of the world and develop significant understandings of the role that these regions have in today’s society. The class will focus specifically on the history, culture and geography from the Renaissance to the present. Emphasis will be given to revolutions, world economic changes, and the development of societies around the world. Students will also trace the developments of political and diplomatic power around the world and view the emergence of the developing countries. Course Prerequisites: Final grade of “A” or “B” in Honors U.S. History 10. Students not enrolled in Honors U.S. History 10 must receive an “A” or “B” in U.S. History 10 and must have a recommendation from that Social Studies teacher. **(1 credit*)**

AP European History (0230) – This course will cover the time period from 1450 to Present. Students will develop an understanding of the principal themes in modern European history, analyze historical evidence and express that understanding and analysis in writing. Course Prerequisites: Final grade of “A” or “B” in Honors U.S. History 10 and in Honors English 10; teacher recommendations from both History and English teachers. **Note on AP Exam:** Student participation in the end-of-course AP Exam is optional. Students who participate in the AP Exam will be required to pay the cost for registration. **(1 credit*)**

Grade Twelve – All grade twelve students are required to take one of the following courses as detailed below. The Economics and Political Systems courses are taught as two - semester courses that equal one credit upon successful completion of both. Students, who do not successfully complete one or both of these semester requirements, will be required to recoup the course credit(s) outside of their regular high school schedule.

Political Systems (0243) – In Political Systems, students will survey the current political and social problems of the United States in relationship to our system of government and those of the world. Students will be able to comprehend their role in our modern society and political democracy. **(.5 credit)**

Economics (0242) – In Economics students will develop a basic understanding of their role in our economy, society, and the world. Students will analyze and practice personal economic skills to apply to the overall economic problems of scarcity and needs vs wants. Also, students will build and apply knowledge about saving, spending, investing, credit, and loans. **(.5 credit)**

Honors Political Systems (0244) – This full-year course examines the American Democratic process by providing an in-depth understanding of the current political and governmental systems in the United States. In this course students will examine the origins of our system of government, the US Constitution, Constitutional rights & freedoms, the 3 Branches of the Federal Government, voting rights & responsibilities, the election process, political parties, influences on the political process, and current events relating to government & politics. **(1 credit*)**

Honors Economics (0241) – This full-year course examines the main principles of both microeconomics and macroeconomics. Students will study the following important concepts: supply and demand, market structures, money and the role of financial institutions, the role of government and businesses, saving, spending, investing, credit, loans and fiscal problems/policies. Also, international economics, including the concepts of trade, comparative advantage theories, balance of payments, government deficits, exchange rates, trade and finance problems between countries will be analyzed and evaluated. **(1 credit*)**

Note on Course Prerequisites for Honors Political Systems and Honors Economics: Students must earn a final grade of “A” or “B” in Honors Global Studies or AP European History. Students not enrolled in Honors Global Studies or AP European History must earn a final grade of “A” or “B” in their eleventh grade social studies course and must have a recommendation from that Social Studies teacher.

American Politics (CHS) (0246) - This full-year course is an introductory course in American politics. The course is suitable for beginning political science students or students who wish to complete the course as their twelfth grade Social Studies credit requirement. The purpose of the course is to teach students both about the American Political System and about broad concepts social scientists use to study politics. Course Prerequisites: Final grade of “A” or “B” in Honors Global Studies or in AP European History and teacher recommendation. (University of Pittsburgh CHS tuition rate = \$235 for three (3) credits). **(1 credit*)**

Principles of Economics (CHS) (0247) - This full-year course is an examination of the fundamental principles which govern economic activities at both the micro and macro levels. Emphasis of this course is to prepare students for college, develop critical thinking skills, problem solving skills and the application of economic principles to individuals, national, and other worldwide economic situations. The course will be divided into two parts micro and macro economics and each will be a full semester. The course will run in conjunction with Robert Morris University. Students who obtain the required grades and pass the required assessments can receive up to 6 college credits (3 credits for Micro-Economics and 3 credits for Macro-Economics). The tuition fee associated with *each* course is

\$250 at time of printing. Enrollment and tuition to Robert Morris University *are not* mandatory. Course Prerequisites: Final grade of “A” or “B” in Honors Global Studies or in AP European History and teacher recommendation. **(1 credit*)**

SOCIAL STUDIES DEPARTMENT ELECTIVE COURSE OFFERINGS

Note: The following course electives and/or combination of course electives will not be approved as a replacement for the required courses for graduation as described above.

Introduction to Psychology (0253) – This semester course will expose students to the broad discipline of modern Psychology, while stepping out of the traditional historical based social studies course. Students will be exposed to many theories, methods and facts that govern the study of human behavior and cognition. Major areas of the field to be addressed include Awareness, Learning, Personality Development and Abnormality. Students will be expected to process, analyze, synthesize and apply the information presented in a vast array of written and oral assessments. **(.5 credit)**

Psychology (CHS) (0256) - The objective of this course is to provide students with an overview of the diverse field of psychology, and an appreciation of the way that behavior and mental processes can be studied scientifically. They also learn about the ethics and methods psychologists use in their science and practice. Students earning an “A” or “B” in the Introduction to Psychology course will be able to schedule this course. Prerequisites for students who have not successfully completed Introduction to Psychology will be based on previous academic standing and/or a teacher recommendation. Students wishing to take this course, who have not taken Introduction to Psychology, will be required to meet with the teacher of record to review the course requirements and gain teacher recommendation. This course will be run in conjunction with the University of Pittsburgh. Students will receive a grade based on assessments set forth by the university. (University of Pittsburgh CHS tuition rate = \$235 for three (3) credits). **(1 credit*)**

Introduction to Sociology (0252) - This semester course is an introduction to the study of Sociology, the study of human social behavior. The major focus of this course will be the formation of the social atmosphere that has been created throughout the world. This course will investigate social structures and interactions of human beings. There will also be a devotion to understanding current social trends and issues that affect our everyday life. The key component of this course is to study ourselves and the society that influences our behavior today and in the future. **(.5 credit)**

MATHEMATICS DEPARTMENT COURSES OF STUDY

Note on Course Prerequisites: Letter grade course prerequisites for Honors, AP, and CHS courses are noted within the course descriptions that follow. In addition, AP Potential will be utilized as a data source for assisting teachers, parent/guardian(s) and students with selecting AP courses. Parent/guardian(s) will receive an AP Potential letter, during the scheduling window, that will offer insight into a students' predicted ability to receive a score of a (3) or higher on the course specific AP test.

Algebra 1 A (0408) – This is a full-year course aligned with the PA Core Standards for Mathematics and the Keystone Algebra 1 Assessment Anchors in preparation for the Keystone Algebra 1 Exam to be taken following the completion of Keystone Algebra 1 B. The students will be exposed to a curriculum that organizes and integrates important algebraic concepts which include: operations with integers and rational numbers, expressions, equations, functions, linear equations, linear functions, equations of linear functions, linear inequalities and linear systems of equations and inequalities. This course is designed to develop independent thinking and learning. Students will acquire mathematical vocabulary and advance their problem-solving skills through written and verbal communication. Use of the TI 84 + graphing calculator is incorporated in the development and application of concepts. **(1 credit)**

Algebra 1 B (0409) – This is a full-year course aligned with the PA Core Standards for Mathematics and the Keystone Algebra 1 Assessment Anchors and is designed to follow Algebra 1 A. It is designed to complete the Keystone Algebra 1 curriculum and students will take the Keystone Algebra 1 Exam following this course. The students will be exposed to a curriculum that organizes and integrates important algebraic concepts which include: linear systems of equations and inequalities, exponential functions, factoring methods, quadratic functions, radicals, rational equations, data analysis and probability. This course is designed to develop independent thinking and learning. Students will acquire mathematical vocabulary and advance their problem-solving skills through written and verbal communication. Use of the TI 84 + graphing calculator is incorporated in the development and application of concepts. **(1 credit)**

Algebra 1 (0411) – This is a full-year course aligned with the PA Core Standards for Mathematics and the Keystone Algebra 1 Assessment Anchors in preparation for the Keystone Algebra I Exam to be taken following the completion of this course. The students will be exposed to a curriculum that organizes and integrates important algebraic concepts which include: operations with integers and rational numbers, expressions, equations, functions, linear equations, linear functions, equations of linear functions, linear inequalities, linear systems of equations and inequalities, exponential functions, factoring methods, quadratic functions, radicals, rational equations, data analysis and probability. This course is designed to develop independent thinking and learning. Students will acquire mathematical vocabulary and advance their problem-solving skills through written and verbal communication. Use of the TI 84 + graphing calculator is incorporated in the development and application of concepts. **(1 credit)**

Algebra I Seminar (0414) – This is a full-year course designed for students who are currently taking Algebra I B or Algebra I who do not score proficient or advanced on the Keystone Algebra I Exam. These students will be required to take this course the following school year, in addition to, their regularly scheduled core mathematics course. This course will provide additional instruction in

preparation for the students to re-take the Keystone Algebra I exam. Students enrolled in this course will be given an ALEKS account (online program) at the beginning of the school year with a required minimum number of topics (currently 320) to complete for the school year. **Notes:** A score of proficient or advanced on the Keystone Algebra I Exam is a requirement for graduation from Montour High School. The School Counselor will contact the parent/guardian of students, who will be scheduled to take the Algebra I Seminar course, after the Keystone Algebra Exam results are made available. Algebra I Seminar is a Pass/Fail course. **(1 credit)**

Geometry (0421) – This is a full-year course aligned with the PA Core Standards for Mathematics and the Keystone Geometry Assessment Anchors. This course includes an in-depth analysis of plane, solid, and coordinate geometry as they relate to both abstract mathematical concepts, as well as real-world problem situations. Significant emphasis is placed on algebra which is integrated throughout all units. The students will be exposed to a curriculum that organizes and integrates important geometry concepts which include but are not limited to: inductive reasoning, deductive reasoning, geometric proofs, perpendicular and parallel lines, triangles, quadrilaterals, proportions, right triangles and trigonometry, circles, surface area and volume. Course Prerequisite: Successful completion of Keystone Algebra I or Keystone Algebra I B. **(1 credit)**

Honors Geometry (0420) – This is a full-year course aligned with the PA Core Standards for Mathematics and the Keystone Geometry Assessment Anchors. This course provides students the opportunity to study geometry at an accelerated pace and at an accelerated level. This course includes an in-depth analysis of plane, solid, and coordinate geometry as they relate to both abstract mathematical concepts, as well as real-world problem situations. Significant emphasis is placed on algebra which is integrated throughout all units. The students will be exposed to a curriculum that organizes and integrates important geometry concepts which include but are not limited to: inductive reasoning, deductive reasoning and proofs, perpendicular and parallel lines, triangles, quadrilaterals, proportions, right triangles and trigonometry, circles, surface area, and volume. Course Prerequisites: Final grade of 93% or higher in Algebra I (grade eight) or a final grade of 93% or higher in Algebra I with teacher recommendation (grade nine). **(1 credit*)**

Algebra II (0431) – This is a full-year course aligned with the PA Core Standards for Mathematics and the Keystone Algebra 2 Assessment Anchors. This course allows students to learn how to solve and simplify a more complex variety of linear, quadratic and rational equations and expressions, develops concepts of functions and variation, and begins their study of probability and statistics. Students will be prepared for the ACT and the SAT through the use of practice questions where test taking strategies are discussed with each solution. Use of the graphing calculator is incorporated in the development and application of concepts. **(1 credit)**

Honors Algebra II (0430) – This is a full-year course aligned with the PA Core Standards for Mathematics and the Keystone Algebra 2 Assessment Anchors. All Algebra II topics are covered within the course along with a more in depth development of them. Additional topics are introduced such as imaginary numbers, three-dimensional graphing, logarithmic functions and their graphs, combinations, and probability. Use of the graphing calculator is incorporated in the development and application of concepts. Students will be prepared for the ACT and the SAT through the use of practice questions where test taking strategies are discussed with each solution. Course Prerequisite: A final grade of 85% or higher in Honors Geometry. **(1 credit*)**

Pre-Calculus and Trigonometry (0436) – This is a full-year course covers many aspects of linear, polynomial, rational, exponential, logarithmic, and circular and trigonometric functions are covered including graphing and applications, as per the PA Core Standards for Mathematics. Examples of additional topics that may be included are advanced algebra topics, identities, and analytic geometry. Use of the graphing calculator is incorporated in the development and application of concepts. Students will be prepared for the ACT and the SAT through the use of practice questions where test taking strategies are discussed with each solution. **(1 credit)**

Honors Pre-Calculus and Trigonometry (0435) – This is a full-year course offered to students who meet the necessary prerequisites. The course covers algebraic, exponential, logarithmic, trigonometric, and inverse functions including graphing and applications, as per the PA Core Standards for Mathematics. Examples of additional topics that may be included are vectors, matrices, analytic geometry, parametric equations, conic sections, polar coordinates, sequences, series, summation notation and math induction. This course places emphasis on applications. Use of the graphing calculator is incorporated in the development and application of concepts. Students will be prepared for the ACT and the SAT through the use of practice questions where test taking strategies are discussed with each solution. Course Prerequisite: Final grade of 85% or higher in Honors Algebra II. **(1 credit*)**

Algebra III (0437) – This course is for those students who have shown ability and interest in mathematics through achievement in Algebra I, Geometry, and Algebra II. Topics include algebraic expressions, linear equations, systems of equations, functions, graphs, rational functions, factoring with quadratic functions, radical expressions and geometry. This course will also place emphasis on problem solving and applications, as per the PA Core Standards for Mathematics. Use of the graphing calculator is incorporated in the development and application of concepts. There is an emphasis placed on preparation for the ACT and SAT, during the first nine week grading period. **(1 credit)**

Calculus (0442) – This class provides an introduction to a first year college calculus course covering both differential and integral calculus. Examples of topics included are limits, continuity, differentiation, extrema, optimization, related rates of change, areas between curves, the fundamental theorem of calculus, definite and indefinite integrals, integration by substitution and LaGrange multipliers. Use of the graphing calculator is incorporated in the development and application of concepts. Course Prerequisite: Successful completion of a Pre-Calculus and Trigonometry course. **(1 credit)**

Business Calculus (CHS) (0441) – This is a first year college calculus course for students interested in managerial, social or biological science. Topics include functions, limits and continuity, differentiation, applications of differentiation, integration, exponential and logarithmic functions, and an introduction to multi-variable calculus. Use of the graphing calculator is incorporated in the development and application of concepts. MHS Course Prerequisite: Final grade of 93% or higher in Pre-Calculus and Trigonometry. University of Pittsburgh Course Prerequisite: Satisfactory score on the college placement exam for enrollment in the course for college credit. (University of Pittsburgh CHS tuition rate = \$235 for four (4) credits). **(1 credit*)**

Statistics (0449) - This course is for those students who have shown ability and interest in mathematics through average or higher achievement in Algebra, Geometry and Algebra II. This course covers the fundamentals of statistics and outlines the relationship between statistics and our world with a variety of

real applications bringing life to abstract theory. Topics include: data collection, organizing and summarizing data, numerically summarizing data, averages, standard deviation, variation, probability, probability distributions, sampling distributions, estimation and hypothesis testing. This course will place emphasis on developing critical thinking skills in order to understand and evaluate the uses and abuses of statistical methods. **(1 credit)**

Basic Applied Statistics (CHS) (0450) – This course covers methods of descriptive and inferential statistics. Topics include data collection and description, hypothesis testing correlation and regression, analysis of variance and contingency tables. In addition, the students' course work will be enhanced by exploring and utilizing the statistical uses of Excel and graphing calculators. Course Prerequisites: A strong mathematical background as indicated by at least an 83% average or higher in Algebra, Geometry, and Algebra II. It is recommended that students complete three (3) math credits for graduation before taking this course. Use of the graphing calculator is required and is incorporated in the development and application of concepts. (University of Pittsburgh CHS tuition rate = \$235 for four (4) credits). **(1 credit*)**

College Entrance Exam Standardized Test Preparation (Mathematics) (0451) – This nine-week standardized test preparation course will familiarize students with the format of the SAT/ACT while teaching effective test-taking techniques and strategies. There will be a comprehensive review of those Mathematics concepts and skills that are tested, via the SAT/ACT. Students will engage in practice questions through timed tests and activities. Students will be provided with a review book and materials that includes practice activities and practice exams. This course is open to students in grades ten, eleven and twelve and can be scheduled and taken multiple times. **(.25 credit)**

AP Calculus AB (0439) – This is a first semester college calculus course covering both differential and integral calculus designed to prepare students for the AP Calculus AB examination. AB Calculus topics included are limits, continuity, differentiation, the mean value theorem, extrema, optimization, related rates, areas between curves, the fundamental theorem of calculus, definite and indefinite integrals, Riemann sums, integration by substitution, volumes of solids, differential equations and slope fields. Use of the graphing calculator is incorporated in the development and application of concepts. Course Prerequisite: Final grade of 83% or higher in Honors Pre-Calculus and Trigonometry. **Note on AP Exam:** Student participation in the AP Exam is optional. Those students who chose to participate will be required to pay the cost of registration. **(1 credit*)**

AP Calculus BC (0440) – This is a second semester college calculus course covering differential calculus, integral calculus and infinite series designed to prepare students for the AP Calculus BC examination. This course will include a review and extension of all AP Calculus AB topics. BC Calculus topics included are analysis and derivatives of parametric, polar, and vector functions, Euler's method of differential equation solution, limits of indeterminate forms, integration by parts and partial fractions, improper integrals, logistic differential equations, the convergence and divergence of series and both Taylor and Maclaurin series polynomial approximations. Use of the graphing calculator is incorporated in the development and application of concepts. Course Prerequisite: Successful completion of AP Calculus AB and teacher recommendation. **Note on AP Exam:** Student participation in the AP Exam is optional. Students who chose to participate will be required to pay the cost of registration. **(1 credit*)**

Calculus III (0443) – This is a third semester college calculus course covering multivariable calculus. It is designed to fully prepare future college engineering, mathematics and science majors for their college mathematics coursework. Calculus III topics included are three dimensional space, vector functions, dot products, cross products, spherical and cylindrical coordinates, polar and parametric coordinates, multivariable functions, partial derivatives and their applications, multiple integrals, line integrals, surface integrals, Stokes' and Green's theorems. Use of the graphing calculator is incorporated in the development and application of concepts. Course Prerequisite: Dual enrollment in AP Calculus BC and teacher recommendation. **(1 credit*)**

SCIENCE DEPARTMENT COURSES OF STUDY

Note on Course Prerequisites: Letter grade course prerequisites for Honors, AP, and CHS courses are noted within the course descriptions that follow. In addition, AP Potential will be utilized as a data source for assisting teachers, parent/guardian(s) and students with selecting AP courses.

Parent/guardian(s) will receive an AP Potential letter, during the scheduling window, that will offer insight into a students' predicted ability to receive a score of a (3) or higher on the course specific AP Exam.

Physical Sciences:

Fundamentals of Chemistry and Physics (0312) - This course is designed to provide foundational skills for students who intend to take chemistry and physics later in their high school course of study. Students will utilize the critical thinking skills of: problem solving, creative thinking, applying knowledge, evaluating data, and experimental design to examine chemistry and physics topics. Topics covered include: basic properties of matter, atomic structure, chemical reactions, particle and mass relationships, mechanics, heat transfer, energy, velocity and motion. Emphasis is placed on inquiry/laboratory activities which are supplemented with lecture/demonstration. **(1 credit)**

General Chemistry I/Lab Science (0351) – The emphasis of this course is on the chemical and physical properties of matter. Course topics discussed include: lab safety and equipment, measurement, atomic structure, the periodic table, bonding, inorganic nomenclature, chemical formulas and reactions, mass relationships in reactions, stoichiometry, states of matter, and properties of solutions. The course information will be presented through a variety of methods including lectures, demonstrations, class discussions, mathematical problem solving, guided inquiry, and lab activities. Many of the chemical concepts presented in this course rely heavily on mathematical concepts, therefore a strong mathematical background is recommended. The enrolled student must have satisfactorily completed Algebra I and Geometry with a minimum grade of 70%. The enrolled student should be concurrently taking Algebra II. **(1 credit)**

Honors General Chemistry/Lab Science (0347) – The emphasis of this course is on the chemical and physical properties of matter. Course topics discussed include: lab safety and equipment, measurement, atomic structure, the periodic table, bonding, inorganic nomenclature, chemical formulas and reactions, mass relationships in reactions, stoichiometry, states of matter, and properties of solutions. The course information will be presented through a variety of methods including lectures, demonstrations, class discussions, mathematical problem solving, guided inquiry, and lab activities. This course moves at a faster pace and will cover the above topics in more depth than the general chemistry course. There is a more intense laboratory and scientific writing component. Many of the chemical concepts presented in this course rely heavily on mathematical concepts, therefore a strong mathematical background is recommended. The enrolled student must have satisfactorily completed Algebra I and Geometry with a minimum grade of 85%. The enrolled student should be concurrently taking Algebra II. **(1 credit*)**

General Chemistry (CHS)/Lab Science (0350) – This is the first half of a two term introduction to general chemistry. Topics include stoichiometry, atomic and molecular structure, states of matter, acid base equilibrium and thermochemistry. Problem solving and laboratory experiences are a functional part of this course. Honors Chemistry is a prerequisite for the course, with a grade of 83% or higher. A

strong Algebra II background is also recommended. The grade is determined by the student's performance on three exams, weekly quizzes, laboratory exercises and a comprehensive final. Laboratory exercises are conducted at the University of Pittsburgh by the Director of Freshman Laboratories and his staff of graduate teaching assistants. The course offers eligible students the opportunity to earn college credits during their regular high school day with tuition payment. Upon successful completion of the course, students will receive four (4) college credits and a grade recorded on a regular University of Pittsburgh transcript. (University of Pittsburgh CHS tuition rate for CHS Chemistry = \$310 for four (4) credits). **(1 credit*)**

AP Chemistry /Lab Science (0349) - This college level course is intended as a third year of chemistry for motivated science students who earned final grade of an 83% or higher in CHS Chemistry. Topics that will be introduced include: Solution Chemistry, Reaction Rates and Chemical Kinetics, Equilibrium, Acid-Base Equilibrium, Electrochemistry, Nuclear Chemistry, Organic Chemistry and Complex Ions. Instructionally, a strong emphasis on inquiry and critical thinking skills will be provided, and everyday life applications will be explored. Successful students are expected to display skills in problem solving, mathematical reasoning, experimental investigation, and oral and written communication. Additionally, as laboratory work will be an integral component of this course, technology including graphing calculators, graphing and data analysis software, and chemistry apparatus will be utilized throughout the course. Problem solving strategies, laboratory techniques, and other preparation necessary for the AP exam will be provided. **Note on AP Exam:** Student participation in the end-of-course AP Exam is optional. Students who participate in the AP Exam will be required to pay the cost for registration. **(1 credit*)**

Organic Chemistry/Micro-Scale Lab Science (0345) - This full-year college level course is intended as an advanced year of chemistry for motivated science students. This course will provide a fundamental overview of organic chemistry to students interested in pursuing a career in the sciences or medical fields. Upon successful completion of this class, students will understand the relationship between structure and function of molecules, the major classes of reactions, reaction energetics and mechanisms, synthesis of organic compounds, and how to determine structure via various spectroscopic techniques. Several themes are prevalent in each unit of study: nomenclature, chemical and physical properties, structures, mechanisms, and common molecules. The course will also integrate the societal, pharmaceutical or industrial importance of specific compounds. Additionally, laboratory work will be an integral component of this course involving micro-scale labs. The enrolled student must have completed CHS Chemistry and/or CHS Biology with a final course grade of "B" or higher and teacher recommendation. **(1 credit*)**

General Physics I/Lab Science (0337) – This is a first year survey course designed to supply the enrolled student with a general understanding of the laws of physics. The course of study will include, but is not limited to, the topics of motion, both one and two dimensional, Newton's laws of motion and gravitation, uniform circular motion, work and energy, momentum and collisions, rotational motion, simple harmonic motion, waves and sound. Attention will be given to the applications of the above concepts in the everyday world. The presentation will utilize the flipped learning model focusing on conceptual understanding. The enrolled student must have satisfactorily completed the above stated math courses with a minimum grade of 70% in each. This course will be beneficial to any college or technical school bound student planning to study a non-science related field. **(1 credit)**

General Physics II/Lab Science (0341) – This is a second year course designed to continue the presentation of the laws of physics beyond General Physics. The course of study will include the topics of electricity and magnetism, direct current circuits, magnetic forces and fields, light and optics, modern physics (relativity and atomic physics). Attention will be given to the applications of the above concepts in the everyday world. The presentation will be at the conceptual level with some mathematical applications involving algebra I and geometry skills. The enrolled student must have satisfactorily completed either first year physics course as well as the above stated math courses with a minimum grade of 70% in each. This course will be beneficial to any college or technical school bound student planning to study a non-science related field. **(1 credit)**

Honors Physics I/Lab Science (0339) – This is a first year survey course designed to supply the enrolled student with a more sophisticated understanding of the laws of physics. The course of study will include, but is not limited to, the topics of kinematics, both one and two dimensional, Newtonian mechanics, gravitation, uniform circular motion, work and energy, momentum and collisions, rotational motion, simple harmonic motion, waves and sound. Attention will be given to the applications of the above concepts in the everyday world. The presentation will focus on representation of the laws of physics as mathematical models and is delivered via a flipped mastery classroom model. The enrolled student must be motivated, self-disciplined and able to effectively manage time. Students must have satisfactorily completed Algebra I, Algebra II and Geometry with a minimum grade of 83% in each. The student must be at least concurrently taking Pre- Calculus and Trigonometry as some applications require this mathematics. This course will be beneficial, and of great importance, to the college bound student planning to study any science or engineering field. **(1 credit*)**

Basic Physics for Science and Engineering I (CHS)/Lab Science (0340) – The first part in a two-term introductory lecture-demonstration sequence in physics for science and engineering students. The second part will be taken after matriculation at a college or university. Subjects covered include: kinematics, Newton's three laws of motion, energy, momentum, rotational motion, rigid body motion, angular momentum, simple harmonic motion, gravitation and kinetic theory of gases. Calculus is used for presentation and derivation of equations and must be taken at least concurrently. Completion of Honors Physics with a grade of 83% or higher is strongly recommended. The course offers the opportunity to earn college credits during their regular high school day. Upon successful completion of the course, students will receive four (4) college credits and a grade recorded on an official University of Pittsburgh transcript. (University of Pittsburgh CHS tuition rate = \$235 for four (4) credits). **(1 credit*)**

Life Sciences:

Biology/Lab Science (0322) – The Biology course will supply the enrolled student with a general understanding of biological concepts. This course will include thorough discussions and investigations into basic biological principles, the chemical basis for life, bioenergetics, homeostasis and transport, cell growth and reproduction, genetics, evolution and ecology. The course curriculum is aligned to the Keystone Biology Assessment Anchors and Eligible Content as determined by The Pennsylvania Department of Education. The course will actively prepare students for completion of the Keystone Biology Exam. The Keystone Biology Assessment Anchors can be viewed in detail by clicking on the following link: [Keystone Biology Assessment Anchors](#) **(1 credit)**

Honors Biology/Lab Science (0321) – The Honors Biology course is designed for the highly motivated student planning a career in the sciences, particularly biological sciences and/or medicine. The course curriculum is aligned to the Keystone Biology Assessment Anchors and Eligible Content as determined by The Pennsylvania Department of Education. The course will actively prepare students for completion of the Keystone Biology Exam to be administered within the month of May (specific dates to be determined by PDE). The Keystone Biology Assessment Anchors can be viewed in detail by clicking on the following link: [Keystone Biology Assessment Anchors](#) The primary method of instruction will be a traditional lecture/discussion format including appropriate laboratory investigations. Course Prerequisites: Students must receive a minimum grade of 87% in their previous science course as well as teacher recommendation. **(1 credit*)**

Biology Seminar (0328) – Students, who are currently taking Biology or Honors Biology and who do not score proficient or advanced on the Keystone Biology Exam, will be required to take this course the following school year, in addition to, their scheduled core science course. The Biology Seminar course will provide students with additional instruction in preparation for the Keystone Biology Exam Re-Test. **Notes:** A score of proficient or advanced on the Keystone Biology Exam is a requirement for graduation from Montour High School. The School Counseling Department will contact the parent/guardian of students, who will be scheduled to take the Biology Supplemental Instruction course, after the Keystone Biology Exam results are made available. Biology Seminar is a Pass/Fail course. **(1 credit)**

Principles of Biology with Laboratory (CHS)/Lab Science (0320) - An enrolled student must be prepared and willing to meet the challenges of a college level science course. This course introduces students to the basic concepts underlying the life sciences. Cellular structure and physiology of plants and animals are discussed in detail. Other topics covered include growth and repair, reproduction and development, and heredity. An enrolled student must have achieved the following criteria in both biology and chemistry: Minimum final course grade of 83% in Honors Biology and Honors Chemistry, or 90% in Biology and Chemistry I. The student will earn 4 credits from Robert Morris University after successful completion of the course. (Robert Morris University CHS tuition rate = \$250 for four (4) credits). **(1 credit*)**

Honors Anatomy & Physiology/Lab Science (0344) – This course is a detailed study of the human body using animal tissue for comparative study. It is offered to those who are planning to continue their studies in some medically related field, or would like to have a better understanding of the human body or broader background in biology. Students must have a 90% in Biology or grade of 80% or higher in Honors Biology. **(1 credit*)**

Anatomy & Physiology (CHS)/Lab Science (0346) – An enrolled student must be prepared and willing to meet the challenges of a college level science course. Students examine the anatomy and physiology of the support and control systems of the human body: skeletal, muscular, nervous, and endocrine. The relationship between structure and function and the concept of homeostasis are emphasized. Attention is given to clinical correlation and application of basic anatomical and physiological facts. Students will participate in at least one laboratory experience, the cadaver lab, at Carlow University. An enrolled student must have achieved the following criteria in biology: Minimum final course grade of 93% in Honors Biology or 98% in Biology. Strong interest in pursuing health sciences related field. Students must be willing to participate in the cadaver lab at Carlow University (not optional). Upon successful

completion of the course, final grade 73% or higher, students will have earned four (4) college credits from Carlow University. (Carlow CHS tuition rate = \$240 for four (4) credits). **(1 credit*)**

Botany (0343) – Botany is the study of plants. Emphasis is placed upon plant structures and their functions, plant metabolism such as photosynthesis and respiration, plant growth processes and requirements, and the relationship/interdependence between plants, other organisms, and the environment. Students will complete a leaf project, and will use the greenhouse for horticultural projects. Students who choose this upper-level life science elective should have successfully completed Biology. **(1 credit)**

BIOMEDICAL SCIENCES PROGRAM

Montour High School offers a series of four biomedical sciences courses within the scope of the *MHS STEM Academy*. This sequence of courses offered via, Project Lead the Way (PLTW), is intended for students who have interest in post-secondary study and/or a career path in any health sciences related field, not strictly the medical field. The series of biomedical sciences courses are as follows: Principles of the Biomedical Sciences, Human Body Systems, Medical Interventions and Biomedical Innovations. These courses cannot serve as course replacement(s) for core courses within the Science Department Courses of Study. Students may enroll in any of the above courses within the scope of grades 9-12, but are required to take the courses in the sequence noted above and must meet all course prerequisites.

Principles of Biomedical Sciences (0324) - Students investigate the human body systems and various health conditions including heart disease, diabetes, sickle-cell disease, hypercholesterolemia, and infectious diseases. They determine the factors that led to the death of a fictional person, and investigate lifestyle choices and medical treatments that might have prolonged the person's life. The activities and projects introduce students to human physiology, medicine, research processes and bioinformatics. Key biological concepts including homeostasis, metabolism, inheritance of traits, and defense against disease are embedded in the curriculum. Engineering principles including the design process, feedback loops, and the relationship of structure to function are also incorporated. This course is designed to provide an overview of all the courses in the Biomedical Sciences program and lay the scientific foundation for subsequent courses. This is an activity-based course and has little lecture and passive learning. The emphasis is on student participation and effort in activities, projects and labs. **(1 credit*)**

Course prerequisites include the following and will be strictly enforced:

Attendance: Students must have no more than twelve (12) unexcused absences, per semester, during the prior school year, to enroll in the course (students in this course who have more than five (5) unexcused absences per nine week grading period will be dropped from the course).

Academic: Students must have above an 80% in current and previously enrolled math and science classes with a recommendation from their math and science teachers. Students with a 78% or higher in an honors math and or science course may enroll with a recommendation from their math or science teacher.

Note: Students may receive college credit at PLTW affiliate colleges for this course if they meet PLTW criteria for college credit. For course credit requirements please see:

Stevenson University

<http://www.stevenson.edu/pltw/collegecredit.asp>

Missouri University of Science and Technology

<http://pltw.mst.edu/undergradcredit/undergradcredit.html>

Human Body Systems (0325) - Students examine the interactions of body systems as they explore identity, communication, power, movement, protection, and homeostasis. Students design experiments, investigate the structures and functions of the human body, and use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary action, and respiration. Exploring science in action, students build organs and tissues on a skeletal manikin, work through interesting real world cases and often play the role of biomedical professionals to solve medical mysteries. This is an activity-based course and has little lecture and passive learning. The emphasis is on student participation and effort in activities, projects and labs. **(1 credit*)**

Course prerequisites include the following and will be strictly enforced:

Attendance: Students must have no more than twelve (12) unexcused absences, per semester, during the prior school year, to enroll in the course (students in this course who have more than five (5) unexcused absences per nine week grading period will be dropped from the course).

Academic: Students must have completed Principles of the Biomedical Sciences with a 75% or higher. Students who have completed Principles of Biomedical Sciences, with a 70% or higher may enroll with a recommendation from their PBS teacher.

Note: Students may receive college credit at PLTW affiliate colleges for this course if they meet PLTW criteria for college credit. For course credit requirements please see:

Stevenson University

<http://www.stevenson.edu/pltw/collegecredit.asp>

Missouri University of Science and Technology

<http://pltw.mst.edu/undergradcredit/undergradcredit.html>

Medical Interventions (0326) - Students investigate a variety of interventions involved in the prevention, diagnosis and treatment of disease as they follow the life of a fictitious family. The course is a “How-To” manual for maintaining overall health and homeostasis in the body. Students explore how to prevent and fight infection; screen and evaluate the code in human DNA; prevent, diagnose and treat cancer; and prevail when the organs of the body begin to fail. Through these scenarios, students are exposed to a range of interventions related to immunology, surgery, genetics, pharmacology, medical devices, and diagnostics. This is an activity-based course and has little lecture and passive learning. The emphasis is on student participation and effort in activities, projects and labs. **(1 credit*)**

Course prerequisites include the following and will be strictly enforced:

Attendance: Students must have no more than twelve (12) unexcused absences, per semester, during the prior school year, to enroll in the course (students in this course who have more than five (5) unexcused absences per nine week grading period will be dropped from the course).

Academic: Students must have completed Principles of the Biomedical Sciences and Human Body Systems with a 75% or higher. Students who have completed Principles of Biomedical Sciences or Human Body Systems with a 70% or higher may enroll with a recommendation from their PBS/HBS teacher.

Note: Students may receive college credit at PLTW affiliate colleges for this course if they meet PLTW criteria for college credit. For course credit requirements please see:

Stevenson University

<http://www.stevenson.edu/pltw/collegecredit.asp>

Missouri University of Science and Technology
<http://pltw.mst.edu/undergradcredit/undergradcredit.html>

Biomedical Innovations (0327) - In this capstone course, students apply their knowledge and skills to answer questions or solve problems related to the biomedical sciences. Students design innovative solutions for the health challenges of the 21st century as they work through progressively challenging open-ended problems, addressing topics such as clinical medicine, physiology, biomedical engineering, and public health. Throughout the course, students are expected to present their work to an adult audience that may include representatives from the local business and healthcare community. **(1 credit*)**

Course prerequisites include the following and will be strictly enforced:

Attendance: Students must have no more than twelve (12) unexcused absences, per semester, during the prior school year, to enroll in the course (students in this course who have more than five (5) unexcused absences per nine week grading period will be dropped from the course).

Academic: Students must have completed Principles of the Biomedical Science, Human Body Systems and Medical Interventions with a 75% or higher. Students who have completed Principles of Biomedical Sciences, Human Body Systems, or Medical Interventions with a 70% or higher may enroll with a recommendation from their PBS/HBS/MI teacher.

Note: Students may receive college credit at PLTW affiliate colleges for this course if they meet PLTW criteria for college credit. For course credit requirements please see:

Stevenson University

<http://www.stevenson.edu/pltw/collegecredit.asp>

Missouri University of Science and Technology

<http://pltw.mst.edu/undergradcredit/undergradcredit.html>

BIOLOGICAL AND ENVIRONMENTAL ENGINEERING PROGRAM

Montour High School offers a Biological Engineering course within the scope of the *MHS STEM Academy*. This course offered via, Project Lead the Way (PLTW), is intended for students who have interest in post-secondary study within a medical science or engineering program. This course cannot serve as course replacement(s) for core courses within the Science Department Course of Study.

Biological and Environmental Engineering (0329) – Biological and Environmental Engineering is a rigorous activity, project, and problem-based course. The emphasis of the Biological Engineering course is on environmental sustainability in which students investigate and design solutions to solve real-world challenges related to world food security, renewable energy, and clean drinking water. Students completing will develop an understanding of the scientific and technological foundations for each of the problems. Students apply their knowledge and skills as they use an engineering design process to design and test solutions that help solve these global challenges. Course Prerequisites: Final grade of 83% or higher in Biology or Honors Biology. It is recommended that a student has participated in a PLTW engineering course prior to enrolling in Biological Engineering. **(1 credit*)**

Comprehensive Science:

Environmental Science (CHS) (0319) - An enrolled student must be prepared and willing to meet the challenges of a college level science course. The course is a first course in the study of environment science. The course is a study of interrelationships that equips students with the necessary information to understand the complex arena of environmental concerns, problems, and alternative courses of action. Questions of human populations and their interaction with the environment, as well as basic ecological principles, environmental ethics, resource use, and conservation are addressed. This course concludes with alternatives we might use to build a society capable of living on Earth with less harmful impacts. Principles of scientific inquiry are integrated throughout the course. Demonstrations and activities are conducted at Robert Morris University. An enrolled student must be at least concurrently enrolled in high school chemistry and successfully completed high school biology with a minimum final course grade of 87% in Honors Biology or an 90% in General Biology. The student will earn 3 credits from Robert Morris University after successful completion of the course. (Robert Morris University CHS tuition rate = \$250 for three (3) credits). **(1 credit*)**

Note: The following semester courses may be taken in combination to fulfill one of three science credits required for graduation after the successful completion of Biology. The Science Department encourages students to follow the department recommendations, via the course flow charts.

Introduction to Meteorology (CHS) (0355) - An enrolled student must be prepared and willing to meet the challenges of a college level science course. This will include a significant amount of independent work outside of the classroom. The course is a first course in the study of meteorology. This course is a general introduction to meteorology for the science major. The historical development of the science of meteorology is reviewed. The physical and chemical properties of the atmosphere are presented. The dynamic state of the atmosphere and the forces that produce it are examined. Elements of weather forecasting are presented. The effect of pollution on the atmosphere, biosphere, hydrosphere and lithosphere are discussed. Course includes a laboratory component which includes hands-on demonstrations of topics and experimentation utilizing the analytical techniques and equipment reviewed in the course. The course assumes some basic mastery of biology, chemistry and physics. Students will engage in hands-on experimentation and participate in instructor led demonstrations of the physical and chemical properties of the atmosphere. Students participate in the construction, review and analysis of a variety of maps, charts, graphs and models used by atmospheric scientists to forecast the weather, document air pollutants, and monitor climate, among others. The course reviews the appropriate use and calibration of the analytical techniques and equipment used in the atmospheric sciences. Demonstrations and activities are conducted at Robert Morris University. The student will earn 4 credits from Robert Morris University after successful completion of the course. (Robert Morris University CHS tuition rate = \$250 for four (4) credits). Students must have successfully completed at least one high school science course, Algebra I and Geometry with a grade of "C" or higher, have a genuine interest in the course content and have the recommendation of a science teacher to enroll in this course. **(.5 credit*)**

Meteorology I (0354) - This semester course is designed as a general survey course in the atmospheric sciences. Topics covered include: weather analysis and monitoring, the Earth's atmosphere, precipitation, frontal systems, wind, severe and winter weather. The impact of weather on climate is also discussed. Creating and verifying weather forecasts will also be covered. Particular emphasis will be placed on collecting and analyzing weather data in real time, through the use of the MHS Weather

Bug. This course deals with the physics and chemistry of the atmosphere as influenced by the earth-atmosphere interaction. This course includes a visit with the National Weather Service Pittsburgh Weather Forecasting Office, when possible. (.5 credit)

Meteorology II (0356) - This semester course is designed to build upon the principles covered in Meteorology I. This semester course will be divided into two broad areas of focus: climatology and natural hazards. The climatology component will focus on the cyclic nature of the Earth's climate, and will answer the questions how and why does the Earth go from greenhouse to ice age? Regional climates and the factors which produce these climate patterns are discussed. Use of proxy data in reconstructing past climates is investigated. Students will have the opportunity to engage in hands-on climate analysis using current and archived MHS Weatherbug data. The natural hazards component of the course will focus on the physical and social processes responsible for producing natural disasters, including, but not limited to, hurricanes, tornadoes, floods, tsunamis and climate extremes. Climate change as a natural hazard will also be discussed. The course will be driven by student discussions and lab based activities. The enrolled student must have successfully completed Meteorology I. (.5 credit)

Astronomy I (0352) - This semester course designed to provide the student with basic skills in astronomy. Students will understand the composition, structure and place in the universe; survey the night sky to be able to locate various celestial bodies, stars and constellations using coordinate systems; explain cycles that occur with the sun and the moon and how they influence the earth's climate. Students will also be introduced to the properties of stars themselves, particularly the composition of stars, and our sun, and the nuclear fusion process and the spectrum as it relates to the life cycle of stars. The semester concludes with a tour of our local neighborhood and an in depth look at the Milky Way Galaxy. (.5 credit)

Astronomy II (0353) - This semester course is designed to further explore the ideas set forth in Astronomy I. Students will investigate the origins and theories of modern astronomy and those who made these contributions; compare various types of telescopes, how they are used in the professional and amateur fields. Students will explore stars that are able to support planets and how the formation of these stars impacts planet formation. The course will also end closer to home researching our own solar system formation, neighboring planets, meteorites, asteroids and comets, and explore the possibilities of life on other worlds. Manned space exploration is also explored. The enrolled student must have successfully completed Astronomy I. (.5 credit)

Welcome to the Universe (0358) - This semester course is designed to provide students with an overview of key topics in astronomy as they relate to a greater understanding of our universe. Topics for study and discussion will be student selected from the following (but not limited to): stars, planets, life in the Milky Way, the universe of galaxies, the expansion of the universe, the Big Bang, and the future of the universe. Course discussion will be based off of the text "Welcome to the Universe" (Tyson, Gott & Strauss, 2016), and center around questions including: How do stars live and die? Why did Pluto lose its planetary status? What are the prospects of intelligent life elsewhere in the universe? How did the universe begin? Why is it expanding and why is its expansion accelerating? Is our universe alone or part of an infinite multiverse? In addition, students enrolling in this course will receive extensive training on the creation and delivery of full dome show content for the Planetarium. Collaborative opportunities with the Buhl Planetarium and Observatory at Carnegie Science Center will enhance classroom content. The enrolled student must be motivated, self-disciplined and able to

effectively manage time, and be willing to read a college level text. Course delivery will be primarily discussion, with teacher and student lead lecture, flipped learning, project-based learning, and student-directed study. Pre-requisites: Students must have successfully completed, at minimum, two other high school science courses with a final grade of “C” or better and have a teacher recommendation. **(.5 credit)**

Forensic Science (0330) - This course is designed to expose students to the use of science in the forensic field, which can be applied to careers in science, medicine, law and law enforcement. The course will cover analysis of various types of evidence, fingerprinting, DNA analysis, microscopy, tool marks, blood and other liquid spatters, ballistics, toxicology, entomology, tracks and soil, crime scene, admissible evidence, chain of evidence, fires and explosions, etc. A student wishing to take this course will have passed biology and chemistry. It is also recommended that the student currently be enrolled or already passed a Physics course. **(.5 credit)**

ENGINEERING AND TECHNOLOGY EDUCATION DEPARTMENT COURSES OF STUDY

Tech Lab (0829) - This semester course offers a hands-on learning experience for students who would like to design, create, prototype and manufacture their own projects and see their ‘ideas come to life.’ Students will have access to all of the Technology Education Labs (engineering, manufacturing, video and graphics, robotics). After becoming comfortable with the available resources and equipment students will be able to design and create their own projects based upon their areas of interest and/or solutions to real world problems. Students will learn about and being to explore... woodworking equipment, metalworking equipment, laser engraving and cutting, CNC routers and plasma cutter, 3D printing, electronics prototyping. Arduino, t-shirt design and screen printing, digital photography and editing, video recording and production, large format printing, vinyl cutting and the following design software... CAD (Inventor, Revit), graphics (Photoshop, Illustrator, InDesign), video editing (Adobe Premiere), electronic simulation (Multisim). **Note:** This course can be taken more than once. **(.5 credit)**

Robotics (0825) – This exploratory course offers students a hands-on introduction to various applications of robotics. Students will experience units in the design process, building, modifying, programming, and testing different types of robots. Students will make use of different sensors and hardware to control each robot. Students will design and construct robots to perform different tasks. This hands-on, minds-on course meets the needs for students of all abilities and background levels. Students will experience group activities and competitions in the classroom. **(.5 credit)**

ENGINEERING AND TECHNOLOGY EDUCATION DEPARTMENT ENGINEERING COURSE PATHWAY

Montour High School offers a series of five engineering courses within the scope of the *MHS STEM Academy*. This sequence of courses offered via, Project Lead the Way (PLTW), is intended for students who have interest in post-secondary study and/or a career path in any technology related field. The series of engineering courses are outlined below. Students may enroll in any of these courses within the scope of grades 9-12, but are required to take the courses in the sequence noted below and must meet all course prerequisites.

9 th Grade	10 th Grade	11 th Grade	12 th Grade
Intro to Engineering and Design	Principles of Engineering Computer Integrated Manufacturing	Digital Electronics Civil Engineering and Architecture	Engineering Design and Development

Introduction to Engineering Design (IED) (0830) – Course Prerequisites: Students should have completed or be concurrently enrolled in Geometry. Introduction to Engineering Design is a full year, course that is appropriate for students who are interested in design and engineering or another technical career. The major focus of the IED course is to expose students to a design process, professional

communication and collaboration methods, design ethics, and technical documentation. IED gives students the opportunity to develop skills in research and analysis, teamwork, technical writing, engineering graphics, and problem solving through activity-, project-, and problem-based (APPB) learning. Used in combination with a teaming approach, APPB-learning challenges students to continually hone their interpersonal skills and creative abilities while applying math, science, and technology knowledge learned in other courses to solve engineering design problems and communicate their solutions. No previous knowledge is assumed but students should be concurrently enrolled in college preparatory mathematics and science courses in order to facilitate the use and understanding of appropriate math and science concepts necessary for the successful completion of IED coursework. In addition, students will use industry standard 3D solid modeling software to facilitate the design and documentation of their solutions to design problems and challenges. Introduction to Engineering Design is one of the foundation courses in the Project Lead The Way high school pre-engineering program. The course applies and concurrently develops secondary level knowledge and skills in mathematics, science, and technology. **(1 credit*) Note:** Students may receive college credit at PLTW affiliate colleges for this class if they meet PLTW criteria for college credit. For more information on PLTW college or university partners visit: <http://www.pltw.org/university-partners>

Principles of Engineering (POE) (0832) – Course Prerequisite: Students must have completed IED with a 73% or higher and it is strongly recommended that students have completed or be concurrently enrolled in Algebra II. This year long course helps students understand the field of engineering/engineering technology. Projects include an automated Material Sorter, Hydraulic Robot Arm, Ping Pong Ball Launcher, Material Testing and VEX Robotics. Topics of study include Thermodynamics, Fluid Systems, Electrical Systems, Control Systems; Statics and Strength; Linear and Trajectory Motion. The course also includes concerns about social and political consequences of technological change. This is the second class in the “Engineering” series of classes. **(1 credit*) Note:** Students may receive college credit at PLTW affiliate colleges for this class if they meet PLTW criteria for college credit. For more information on PLTW college or university partners visit: <http://www.pltw.org/university-partners>

Computer Integrated Manufacturing (CIM) (0831) – Course Prerequisite: Students must have completed IED with a 73% or higher. This full year course provides an opportunity for students to recognize many of the exciting career opportunities in the manufacturing industry. Computer Integrated Manufacturing is one of the specialization courses in the PLTW Engineering program. The course deepens the skills and knowledge of an engineering student within the context of efficiently creating the products all around us. Students build upon their Computer Aided Design (CAD) experience through the use of Computer Aided Manufacturing (CAM) software. CAM transforms a digital design into a program that a Computer Numerical Controlled (CNC) mill uses to transform a block of raw material into a product designed by a student. Students learn and apply concepts related to integrating robotic systems such as Automated Guided Vehicles (AGV) and robotic arms into manufacturing systems. Throughout the course students learn about manufacturing processes and systems. This course culminates with a capstone project where students design, build, program, and present a manufacturing system model capable of creating a product. **(1 credit*) Note:** Students may receive college credit at PLTW affiliate colleges for this class if they meet PLTW criteria for college credit. For more information on PLTW college or university partners visit: <http://www.pltw.org/university-partners>

Digital Electronics (DE) (0833) – Course Prerequisite: Students must have completed IED with a 73% or higher and it is strongly recommended that students have completed or be concurrently enrolled in Algebra II. Digital Electronics is a full year course that is appropriate for tenth or eleventh grade students interested in electronics. Other than their concurrent enrollment in college preparatory mathematics and science courses, this course assumes no previous knowledge. This year long course is the study of electronic circuits that are used to process and control digital signals. In contrast to analog electronics, where information is represented by a continuously varying voltage, digital signals are represented by two discrete voltages or logic levels. This distinction allows for greater signal speed and storage capabilities and has revolutionized the world electronics. Digital electronics is the foundation of all modern electronic devices such as cellular phones, MP3 players, laptop computers, digital cameras, high definition televisions, etc. The major focus of the DE course is to expose students to the design process of combinational and sequential logic design, teamwork, communication methods, engineering standards, and technical documentation. Utilizing the activity-project-problem-based (APPB) teaching and learning pedagogy, students will analyze, design and build digital electronic circuits. While implementing these designs students will continually hone their interpersonal skills, creative abilities and understanding of the design process. The course applies and concurrently develops secondary level knowledge and skills in mathematics, science, and technology. **(1 credit*)** **Note:** Students may receive college credit at PLTW affiliate colleges for this class if they meet PLTW criteria for college credit. For more information on PLTW college or university partners visit: <http://www.pltw.org/university-partners>

Civil Engineering and Architecture (CEA) (0834) – Course Prerequisites: Students must have completed IED with a 73% or higher. This course provides an overview of the fields of Civil Engineering and Architecture, while emphasizing the interrelationship and dependence of both fields on each other. Students use state of the art software to solve real world problems and communicate solutions to hands-on projects and activities. This course covers topics such as: the roles of Civil Engineers and Architects, Project Planning, Site Planning, Building Design, Project Documentation and Presentation and Building Code Research. **(1 credit*)** **Note:** Students may receive college credit at PLTW affiliate colleges for this class if they meet PLTW criteria for college credit. For more information on PLTW college or university partners visit: <http://www.pltw.org/university-partners>

Engineering Design and Development (EDD) (0835) – Course Prerequisites: IED, POE, and either DE, CIM or CEA. Engineering Design and Development (EDD) is a full year course and is the capstone course in the PLTW high school engineering program. It is an engineering research course in which students work to design and develop an original solution to a valid open-ended technical problem by applying the engineering design process. The course applies and concurrently develops secondary level knowledge and skills in mathematics, science, and technology. Students will perform research to choose, validate, and justify a technical problem. After carefully defining the problem, teams of students will design, build, and test their solution. Finally, student teams will present and defend their original solution to an outside panel. While progressing through the engineering design process, students will work closely with experts and will continually hone their organizational, communication and interpersonal skills, their creative and problem solving abilities, and their understanding of the design process. Since the projects on which students work can vary with student interest and the curriculum focuses on problem solving, EDD is appropriate for students who are interested in any technical career path. EDD should be taken as the final capstone PLTW course since it requires application of the knowledge and skills from the PLTW foundation courses. **(1 credit*)**

MONTOUR HIGH SCHOOL STEM ACADEMY

The Montour High School STEM Academy will provide students an exemplary education through a rigorous curriculum which integrates science, technology, engineering and mathematics. The defined course framework will develop highly organized, logical, and technologically literate thinkers prepared for post-secondary education and successful careers in any STEM related field.

Purpose:

The Montour STEM Academy is an integrated course framework which focuses on Science, Technology, Engineering and Mathematics (STEM). The academy will produce technologically literate graduates prepared for post-secondary education and future careers in any STEM field.

Target Audience:

High school students with an interest and aptitude in science and mathematics anticipating a career path in a STEM related field.

Expected Outcomes of the STEM Academy:

- Technologically literate graduates
- Career Exploration
- Highly organized, logical thinkers
- Preparation for post-secondary education
- Preparation for all fields of employment

Course of Study:

Graduation requirements for all incoming freshmen are outlined in the Montour High School Courses of Study. In addition to these requirements specific courses must be successfully completed by students enrolled in the STEM academy. The course of study for each academic year is listed below, italicized, boldface type indicates requirements specific to enrollment in the STEM academy. Note: As additional courses are offered and revised all course pathways are subject to change.

Engineering Track

Ninth Grade

- English course selection
- Social Studies course selection
- Mathematics – *Must be enrolled in, or have successfully completed, Geometry or Honors Geometry.*
- Biology, or Honors Biology
- *Introduction to Engineering and Design*
- 2 credits of Free Elective(s)

Tenth Grade

- English course selection
- Social Studies course selection
- Mathematics – *Must be enrolled in, or have successfully completed, Algebra II or Honors Algebra II.*
- Science course (*General Biology or Honors Biology*)
- *Principles of Engineering or Computer Integrated Manufacturing*
- 2 credits Free Elective(s)

Eleventh Grade

- English course selection
- Social Studies course selection
- Mathematics – ***Must be enrolled in, or have successfully completed, Pre-Calculus Trigonometry or Honors Pre-Calculus Trigonometry.***
- ***General Physics or Honors Physics***
- ***Digital Electronics***
- 2 credits ***Controlled*** Elective (choose 1 course from the supplied list)
 - Chemistry or Honors Chemistry
 - Civil Engineering and Architecture (CEA)
 - Computer Integrated Manufacturing (CIM)
 - Basic Applied Statistics (CHS)
 - Additional engineering, science or mathematics courses may be available in the future.

Twelfth Grade

- English course selection
- Social Studies course selection
- Mathematics – ***Must be enrolled in, or have successfully completed, Honors Calculus, AP Calculus AB or AP Calculus BC.***
- Civil Engineering and Architecture (CEA), or Computer Integrated Manufacturing (CIM)
- 2 credits Controlled Electives (choose 2 courses, at least 1 must be a science, from the supplied list)
 - Chemistry or Honors Chemistry
 - Basic Physics for Science and Engineering (CHS)
 - General Chemistry (CHS)
 - Engineering Development and Design (EDD)
 - Additional engineering, science or mathematics courses may be available in the future.

Science Track – Life Science, Physical Science or Related Career

Ninth Grade

- English course selection
- Social Studies course selection
- Mathematics – ***Must be enrolled in, or have successfully completed, Geometry or Honors Geometry.***
- Biology or Honors Biology
- ***Course from Biomedical Sciences Program (Principles of Biomedical Sciences)***
- 2 credit of Free Elective(s)

Tenth Grade

- English course selection
- Social Studies course selection
- Mathematics – ***Must be enrolled in, or have successfully completed, Algebra II or Honors Algebra II.***
- Science course(s)
- ***Course from Biomedical Sciences Program (Human Body Systems)***
- 2 credit Free Elective(s) (schedule permitting)

Eleventh Grade

- English course selection
- Social Studies course selection
- Mathematics – ***Must be enrolled in, or have successfully completed, Pre-Calculus Trigonometry or Honors Pre-Calculus Trigonometry.***
- Science course(s)
- ***Course from Biomedical Sciences Program (Medical Interventions)***

- 2 credit Free Elective(s)

Twelfth Grade

- English course selection
- Social Studies course selection
- Mathematics – *Must be enrolled in, or have successfully completed, Honors Calculus, AP Calculus AB or AP Calculus BC or Calculus III*
- Science course(s)
- *Course from Biomedical Sciences Program (Biomedical Innovations)*
- 2 credit Free Elective(s)

BUSINESS EDUCATION DEPARTMENT COURSES OF STUDY

Accounting I (0633) - This level II Business Education semester course is designed to introduce students to the procedures of keeping business records from an accounting perspective. The accounting cycle will be studied for businesses organized as a proprietorship and partnership. Students will also learn about payroll and taxes from both a business and personal standpoint. In addition, opportunities will be provided to explore the various careers and fields in accounting. **(.5 credit)**

Financial Accounting (CHS) (0634) - This level III Business Education semester course is designed to introduce the student to accounting terms and principles related to the preparation and use of financial statements and other financial information. The focus of this course is on accounting data generated for external users of financial information. The accounting environment is examined along with the basic concepts which govern the recording and reporting of economic events in the accounting records. Study of debits and credits, accrual accounting, and the accounting cycle establishes the framework for an understanding of the transformation of accounting data into financial statement format. This course is taught in conjunction with Robert Morris University. (Robert Morris University CHS tuition rate = \$250 for three (3) credits). Course Prerequisite: Final grade of 83% or higher in Accounting I. **(.5 credit*)**

Introduction to Business (0649) - This level I Business Education semester course is designed to provide the student with a broad background about the modern business world. This course explains the functions of business and its role in the American economy. The course is taught in conjunction with the JA Company Program. JA Company Program provides basic economic education for high school students by allowing them to organize and operate an actual business. Students not only learn how businesses function, they also learn about the structure of the U.S. free enterprise system and the benefits it provides. **Note:** Students must take this level I Business Education semester course in order to advance to level II Business Education courses. **(.5 credit)**

Marketing and Advertising (0650) - This level I Business Education semester course is a contemporary, lively, and thought provoking business elective. The field of marketing and advertising plays a vital role in the distribution process in America today from product conception to product consumption. Key elements of marketing will be covered to lay a solid foundation of fundamentals which will not be limited to but will include: the 7 functions of marketing (product/service management, distribution, selling, marketing-information management, financing, pricing, and promotion), the 4 P's of marketing (product, price, place, promotion), marketing mix and target markets. Marketing will be analyzed and applied at several levels to ensure understanding of its importance in general business. **Note:** Students must take this level I Business Education semester course in order to advance to level II Business Education courses. **(.5 credit)**

Introduction to Business Management (0647) - This level II Business Education semester course is designed to develop sound management concepts in the planning, organizing, directing, and controlling functions of a business. Topics include decision-making within the business setting, human relations expertise, and motivational skills. Course Prerequisite: Successful completion of Introduction to Business. **(.5 credit)**

Hospitality and Tourism (0646) - This level II Business Education semester course provides students with subject matter and learning experiences related to the process of planning and implementing in the service industry. The history, organization, economic and social background and the current issues and trends of the service industry are explored. The course describes accommodations management, restaurant management, managed service operations, career explorations, channels of distribution, marketing environment, and pricing products. The course will emphasize the service industry both as a career opportunity and as a provider of human services through effective planning, development, businesses, marketing, and management. Course Prerequisite: A final grade of 83% or higher in Marketing and Advertising. (.5 credit)

Business Management (CHS) (0656) - This level III Business Education semester course is the foundation course for management majors. The course traces the development of management thought and practice from pre-Industrial Revolution to preparation for Century 2000. The course presents the shift in management paradigms and legal requirements; the changes in organizational structures; and the evolution of management theories. Goals of the course include helping students integrate theories into a coherent knowledge background for advanced management courses and building a framework for future management practice. This course is taught in conjunction with Robert Morris University. (Robert Morris University CHS tuition rate = \$250 for three (3) credits). Course Prerequisite: A final grade of 83% or higher in Introduction to Business Management and teacher recommendation. (.5 credit*)

Principles of Marketing (CHS) (0654) - This level III Business Education semester course includes a basic study of marketing systems in the American economy, identifying the activities involved in the flow of goods to both the ultimate consumer and the industrial user. Consideration is given to the nature of demand and to the buyer. Federal and state statutes affecting marketing management are investigated. This course is taught in conjunction with Robert Morris University. (Robert Morris University CHS tuition rate = \$250 for three (3) credits). Course Prerequisites: A final grade of 83% or higher in Marketing and Advertising and teacher recommendation. **Note:** It is recommended that a student also complete Hospitality and Tourism. (.5 credit*)

Hospitality and Tourism Management (CHS) (0655) - This level III Business Education semester course provides students with subject matter and learning experiences related to the process of executing concepts in the service industry. The history, organization, economic and social background and the current issues and trends of service industries are explored. The course describes effective business communication, quality customer service and management, leadership management, recreation industry management, special event operations, etc... This course is taught in conjunction with Robert Morris University. (Robert Morris University CHS tuition rate = \$250 for three (3) credits). Course Prerequisite: A final grade of 83% or higher in Hospitality and Tourism Management and teacher recommendation. (.5 credit*)

Sports, Arts, Entertainment, Event, Non-Profit, Marketing and Management Applications (SAEM Program) (0657) - This semester Business Education course will be offered in conjunction with Point Park University's Sport, Art, and Entertainment Management curriculum. Students, who complete the course with a final grade of 80% or higher and elect to attend Point Park University, will receive three (3) post-secondary credits that can be applied to Point Park University's *Sport, Art, and Entertainment Management 101* course. This course will provide a critical understanding of the following topics: current events, event management and marketing, banking and financial systems, sports and

entertainment law, event and live music management, promotion and distribution of events, ticketing, product development and pricing strategies, corporate sponsorship and fundraising, non-profit event management and marketing. This course will feature projects that utilize Point Park University's resources and facilities. There will be an emphasis on using technology as a tool to plan, manage and market actual events. Interested students must be able to handle deadline pressure, working in teams, and should expect to spend additional time outside of the class working on the projects. Students will have the opportunity to engage in human centered design thinking strategies that will further enhance the project based learning experience. Course Prerequisites: A final grade of 83% or higher in Marketing and Advertising and teacher recommendation. **Note:** It is recommended that a student also complete Hospitality and Tourism. **(.5 credit*)**

COMPUTER SCIENCES DEPARTMENT COURSES OF STUDY

COMPUTER PROGRAMMING AND WEBSITE DESIGN AND DEVELOPMENT PROGRAM

The following courses provide students with the opportunity to earn college credits while still in high school. These courses are offered through a partnership with the University of Pittsburgh. Credits may be transferable to other universities.

Introduction to Computer Programming (CHS) (0016) - This is an introductory course to Computer Sciences. The objectives of this course are to use the computer in an interactive environment, to analyze problems, to develop algorithms, to learn Visual Basic language, to design code and to document programs using techniques of good programming. The grade is determined by the student's performance on programming assignments, two examinations and a final exam. (University of Pittsburgh CHS tuition rate = \$235 for three (3) credits). Course Prerequisite: Successful completion of Algebra I. **(1 credit*)**

Intermediate Computer Programming (CHS) (0017) - This course is an introduction to the concepts, techniques and tools of Computer Science. It is designed for students who are intending to major in that discipline or need this course as a requirement for another discipline. The course emphasizes a fundamental approach to problem analysis, algorithm development and top-down design. The grade is determined by the student's performance on programming assignments, two examinations and a final exam. (University of Pittsburgh CHS tuition rate = \$235 for three (3) credits). Course Prerequisite: Successful completion of Introduction to Programming. **(1 credit*)**

Introduction to Website Design and Development (CHS) (0015) - The objective of this course is to provide a basic understanding of the methods and techniques of developing a simple to moderately complex web site. Using the standard web page language XHTML, students will be instructed on creating and maintaining a simple web site. After the foundation language of XHTML as well as some dynamic XHTML has been established, the aid of an Internet editor, Dreamweaver or something comparable will be introduced. To further enhance the web sites, a second language, Java Script, will be included. Finally, web site design and layout techniques as well as basic search engine analysis will be added to enhance the students practical design skills. Grading will be based on labs, homework, a final project and exams. (University of Pittsburgh CHS tuition rate = \$235 for three (3) credits). **(.5 credit*)**

Intermediate Website Design and Development (CHS) (0018) - The objective of this course is introduce students to more advanced implementations of both markup as well as scripting languages, in addition, students will be introduced to a graphical interface application that will allow them to explore concepts of server side web development. A reflective programming language and database application will be used to introduce the server side web development concepts. (University of Pittsburgh CHS tuition rate = \$235 for three (3) credits). Course Prerequisite: Successful completion of Introduction to Programming or Website Design and Development. **(.5 credit*)**

CyberSTEM CYBERSECURITY PROGRAM

The following three courses make-up the CyberSTEM Cybersecurity Program and provide students with the opportunity to earn college credits while still in high school. Students, who successfully complete each of the following three courses, will have the opportunity to participate in a summer cyber security internship program with the FBI. These courses are offered in partnership with the University of Pittsburgh. Credits may be transferable to other universities.

Introduction to Information Science (Advanced) (CHS) (0020) - This course will introduce students to both information theory and the design and structure of information systems. Students will learn how computers and networks work at a fundamental level and will explore how social networks, collection of information (databases), and programming languages work. The course will spend particular attention on security and privacy issues. The course will provide you with basic skills such as building web page, programming using simple JavaScript on web pages, design and use of simple databases, and manipulation of digital media. (University of Pittsburgh CHS tuition rate = \$245 for three (3) credits). **(1 credit*)**

Computer Security (CHS) (0021) – This course covers the fundamental concepts in Computer security and privacy. The course is intended to expose the various security threats and vulnerabilities in computer systems and provide an understanding of the various defense and protection mechanisms. Primarily, the course will focus on models and mechanisms related to insuring confidentiality, integrity and availability related to computer and information systems. We will cover the basic concepts of cryptography including symmetric and public key encryption schemes. We then focus on program security issues such as buffer overflow attacks and discuss various control mechanisms to handle malicious code. The second half of the course will cover the topics of Database Security and general security issues in Operating Systems. Towards the end, we discuss various security and privacy issues in the context of emerging cloud computing systems. (University of Pittsburgh CHS tuition rate = \$245 for three (3) credits). Course Prerequisite: Successful completion of Introduction to Information Science (Advanced). **(1 credit*)**

Cybersecurity and the Law (CHS) (0022) - Computers, the Internet, and mobile information technologies have become routine elements of our daily lives. The percentage of our social, professional, and political discourse mediated by information systems increases each year. Critical infrastructure likewise follows suit, with financial, healthcare, energy and other utilities leveraging the Internet to increase both capability and efficiency. In the physical world, we publish rules (laws) to govern our interactions with one another. These rules tell us what behaviors are permissible and what responsibilities we have to one another. In cyberspace, where these rules exist – and what they require – are less clear. This course explores questions surrounding how we "govern" cyberspace in the context of cybersecurity and privacy issues. The will examine a series of examples, both real-world and hypothetical, to investigate what policy "tools" are in-place, available, and *should be available* to address Internet security and privacy issues. (University of Pittsburgh CHS tuition rate = \$245 for three (3) credits). **(1 credit*)**

SMART DESK PROGRAM

SMART Desk (0014) - Montour High School students, who wish to participate in the Spartan SMART Desk for course credit, are to review the following guidelines and complete the application in full noting that their approved participation in this course will be graded as a Pass (P)/Fail (F), will be non-weighted, will not be included with the GPA/QPA and Rank in Class calculations and will have a credit value of one (1). The course will appear on the student's Report Card and Official Transcript. Upon completion the application is to be submitted to the High School Principal. If approved by the High School Principal, the student will be scheduled into the course and will be expected to complete all of the course requirements. **(1 credit)**

Montour High School students, who wish to participate in Spartan SMART Desk must meet the following criteria...

- Students in grades nine, ten, eleven and twelve are eligible to request and be scheduled for the Spartan SMART Desk.
- Student must be in good academic standing and working toward the successful completion of all graduation requirements, as per the MHS Courses of Study. **Note:** Students, who do not remain in good academic standing, will be removed from the Spartan SMART Desk course.

Montour High School students, who wish to earn course credit, as a result of their participation in the Spartan SMART Desk course, must successfully complete the following...

- Demonstrate excellent attendance specific to the Spartan SMART Desk Schedule. **Note:** Students will be expected to keep a Weekly Log of their activities.
- Complete assigned projects and/or certifications under the supervision of the Director of Technology and Technology Coach. **Notes:** Students will be given the opportunity to propose a technology project that they will be able to work on throughout the school year. The project must first be approved by the Director of Technology and Technology Coach.

WORLD LANGUAGES DEPARTMENT COURSES OF STUDY

Note on Course Acceleration: The Montour High School World Languages Department recognizes that self-motivated students who exhibit superior aptitude may be eligible to advance themselves within a World Languages Course of Study. **Such academic acceleration can only be initiated via teacher recommendation.** Should a teacher identify a student who is eligible for course acceleration, communication will be initiated with the parent/guardian. Students eligible for acceleration will be required to take a course specific placement assessment. Should the student meet the established criteria via the course specific placement assessment they will then be responsible to complete independent summer work in preparation for course work to be taken during the upcoming school year.

French I (0519) – French I is an introduction to French emphasizing communicative-based competencies of French language and culture. Correlated to the curriculum are the broad Goals of the Standards for Foreign Language Learning in the 21st Century (Communication, Cultures, Connections, Comparisons, and Communities) which define the essential skills and knowledge that all students need to acquire. **(1 credit)**

French II (0522) - French II continues the work begun in French I. It is a course emphasizing communicative-based competencies of French language and culture. Correlated to the curriculum are the broad Goals of the Standards for Foreign Language Learning in the 21st Century (Communication, Cultures, Connections, Comparisons, and Communities) which define the essential skills and knowledge that all students need to acquire. Course prerequisite: Successful completion of French I or equivalent. **(1 credit)**

French III (0531) - French III is a course that builds on the communicative-based competencies, grammar, and the language and culture learned in French II. Correlated to the curriculum are the broad Goals of the Standards for Foreign Language Learning in the 21st Century (Communication, Cultures, Connections, Comparisons, and Communities) which define the essential skills and knowledge that all students need to acquire. Course prerequisite: Final grade of 70% or higher in French II or equivalent. **(1 credit)**

Honors French III (0533) - Honors French III is a course that builds on the communicative-based competencies, grammar, and the language and culture learned in French II. Students attend the French III class. Students should expect several additional homework assignments per week as well as differentiated assignments and activities to improve their competency. Correlated to the curriculum are the broad Goals of the Standards for Foreign Language Learning in the 21st Century (Communication, Cultures, Connections, Comparisons, and Communities) which define the essential skills and knowledge that all students need to acquire. Course prerequisite: Final grade of 85% or higher in French II or equivalent. **(1 credit*)**

Honors French IV (0541) - In the first three levels of language study, the student becomes familiar with basic vocabulary, a number of fundamental grammatical structures, and some cultural concepts. Honors Level IV provides the opportunity to learn new grammatical concepts as well as reinforce previously learned grammar. Further emphasis is placed on the development of the four basic skills - reading, writing, listening and speaking. Students will begin to study current reading selections and literary works. Course prerequisite: Final grade of 83% or higher in French III. **(1 credit*)**

Honors French V (0546) - The fifth year course is the culmination of the high school language experience. Students use the concepts and skills mastered in the previous courses to explore a variety of topics including rural vs. urban living, holidays in France, mass transit, etiquette in France vs. the US, and professions. Additionally, French V students read a considerable amount of authentic literature including *Le Tour du Monde en 80 Jours* (Jules Verne) and *Le Petit Prince* (Antoine de Saint-Exupéry.) A rigorous review of French grammar is also included at this level. **(1 credit*)**

Spanish I (0514) - Spanish I is an introduction to Spanish emphasizing communicative-based competencies of Spanish language and culture. Correlated to the curriculum are the broad Goals of the Standards for Foreign Language Learning in the 21st Century (Communication, Cultures, Connections, Comparisons, and Communities) which define the essential skills and knowledge that all students need to acquire. **(1 credit)**

Spanish II (0521) - Spanish II continues the work begun in Spanish I. It is a course emphasizing communicative-based competencies of Spanish language and culture. Correlated to the curriculum are the broad Goals of the Standards for Foreign Language Learning in the 21st Century (Communication, Cultures, Connections, Comparisons, and Communities) which define the essential skills and knowledge that all students need to acquire. Course prerequisite: Successful completion of Spanish I or equivalent. **(1 credit)**

Spanish III (0530) - Spanish III is a course that builds on the communicative-based competencies, grammar, and the language and culture learned in Spanish II. Correlated to the curriculum are the broad Goals of the Standards for Foreign Language Learning in the 21st Century (Communication, Cultures, Connections, Comparisons, and Communities) which define the essential skills and knowledge that all students need to acquire. Course prerequisite: Final grade of 70% or higher in Spanish II or equivalent. **(1 credit)**

Honors Spanish III (0543) - Honors Spanish III is a course that builds on the communicative-based competencies, grammar, and the language and culture learned in Spanish II. Students attend the Spanish III class. Students should expect several additional homework assignments per week as well as differentiated assignments and activities to improve their competency. Correlated to the curriculum are the broad Goals of the Standards for Foreign Language Learning in the 21st Century (Communication, Cultures, Connections, Comparisons, and Communities) which define the essential skills and knowledge that all students need to acquire. Course prerequisite: Final grade of 85% or higher in Spanish II or equivalent. **(1 credit*)**

Honors Spanish IV (0544) - In the first three levels of language study, the student becomes familiar with basic vocabulary, a number of fundamental grammatical structures, and some cultural concepts. Honors Level IV provides the opportunity to learn new grammatical concepts as well as reinforce previously learned grammar. Further emphasis is placed on the development of the four basic skills - reading, writing, listening and speaking. Students will begin to study current reading selections and literary works. Course prerequisite: Final grade of 83% or higher in Spanish III. **(1 credit*)**

Honors Spanish V (0545) - The fifth year course is the culmination of the high school language experience. Students use the concepts and skills mastered in the previous courses to explore a variety of

topics according to their interests. Course Prerequisite: Final grade of 73% or higher in Honors Spanish IV. **(1 credit*)**

Spanish V (CHS) (0551) - This fifth year course builds on and expands the language skills acquired in the first four levels of Spanish. It is designed to develop communicative proficiency. It combines content-based language instruction with an interactive task-based approach and focuses in all relevant language skills: listening, speaking, reading and writing. Culture is integrated in all aspects of the program. Each chapter will focus around a topic, and vocabulary, grammar and culture presentation and practice will be linked to the theme chapter. Because you might have limited opportunities to speak or hear Spanish, classroom time is devoted to developing your competence in these two areas. Therefore, your instructor will speak only in Spanish to you during the class, and you will be expected to do the same with your instructor and classmates. Strategies for listening comprehension and developing speaking skills will be taught in class. Students will be able to sustain concrete exchanges on predictable topics necessary for surviving in the target culture. In addition, they will be able to express personal meaning and discuss information related to self and family, daily activity, and immediate needs, but also personal preferences. During the course, students will improve the four skills (reading, writing, speaking, and listening) through reading activities, compositions assignments, and short films. Students will expand their knowledge of cultures of the Spanish-speaking world and its people. By the end of the course, students will be able to handle a substantial number of communicative tasks most of the time. They will develop the ability to narrate and describe in all major frames using connecting discourse of paragraph length. They will have learned to sustain successfully social interactions requiring a basic exchange of information related to their work, school, recreation, particular interests and areas of competence. (University of Pittsburgh CHS tuition rate = \$245 for three (3) credits). **(1 credit*)**

Mandarin Chinese I (0547) - First year Mandarin Chinese students will study the culture and language of the Chinese. Basic listening, speaking, reading, and writing skills are developed in this level I foundation course. Students will learn standard Chinese characters, as well as, traditional characters. Students will study traditional culture which will include history, art, science, customs, and philosophy. Modern Chinese economics and policies along with urban culture will, as well, be studied. **Note:** This is a distance learning course. Students will participate in this course via real-time videoconferencing. **(1 credit)**

Mandarin Chinese II (0548) - The second year Mandarin Chinese course builds on the skills and concepts acquired in year one. Students will have the opportunity to expand their vocabulary and knowledge of grammar through practice in the skills of listening, speaking, reading and writing. Students will study traditional culture which will include history, art, science, customs, and philosophy. Modern Chinese economics and policies along with urban culture will, as well, be studied. **Note:** This is a distance learning course. Students will participate in this course via real-time videoconferencing. Course Prerequisites: Successful completion of Mandarin Chinese I and a recommendation from the course instructor. **(1 credit)**

Mandarin Chinese III (0549) – The third year Mandarin Chinese course is a continuation of Mandarin Chinese II, with more complex sentence structures and situations. It is designed for students who have completed two semesters at the Confucius Institute or who have studied elsewhere and have a spoken vocabulary of roughly five-hundred words. The specific content and pace of the course will be adapted to the skill level of the students enrolled. **Note:** This is a distance learning course. Students will

participate in this course via real-time videoconferencing. Course Prerequisites: Successful completion of Mandarin Chinese II and a recommendation from the course instructor. **(1 credit)**

Mandarin Chinese IV (0550) – The fourth year Mandarin Chinese course is a continuation of Mandarin Chinese III. It is designed for students who have completed two semesters at the Confucius Institute or who have studied elsewhere and have a spoken vocabulary of over five-hundred words. The specific content and pace of the course will be adapted to the skill level of the students enrolled. **Note:** This is a distance learning course. Students will participate in this course via real-time videoconferencing. Course Prerequisites: Successful completion of Mandarin Chinese III and a recommendation from the course instructor. **(1 credit)**

FAMILY AND CONSUMER SCIENCES COURSES OF STUDY

Financial Literacy – The successful completion (pass/fail) of this nine week course in Financial Literacy is a requirement for graduation for all students and will be taken during the ninth grade year. The Financial Literacy course will be offered as an online course and will be scheduled for students during one of the four nine week grading periods. Students will be exposed to topics including: banking, budgeting, payment types, credit history, identity theft and saving for college. **Note:** Students who enroll at Montour High School after their ninth grade year will be required to take this course during the school year in which they enroll. Students, who do not successfully complete this course, will be required to complete a Financial Literacy credit recovery course outside of Montour High School. **(.25 credit)**

Early Childhood Development (0809) – This course covers topics on family structure, parenting skills, reproduction, prenatal development, labor and delivery, infancy, and early childhood until age two. All areas of development will be explored including social, emotional, intellectual, and physical. Theory will be applied to real life situations. Students will demonstrate learning in a variety of ways including discussion, presentations, projects, and activities like participation in the Real Care Baby Program. Students will be required to take The Real Care Baby Infant Simulator home for a weekend. This semester course is open to students in grades nine through twelve. **(.5 credit)**

Middle Childhood Development (Child Psychology of the Preschool Student) (0810) - Children ages three through five will be studied. Their routines, characteristics, interests, peer relationships, and skill levels will be focus areas for learning. How children behave in social settings will be studied. A major focus of this course will be studying children as they learn and behave in the classroom setting. Students will learn instructional methodologies and develop classroom lessons that address audio, visual, and kinesthetic learning styles. Students will observe and work in our MHS Early Learning Center. Course Prerequisite: Successful completion of Early Childhood Development with a final course grade of “B” or higher. **(1 credit)**

Child and Adolescent Development for Teaching (0811) - Within the scope of this course students will study how preschoolers grow and develop physically, emotionally, socially, and intellectually. Child care skills are developed as appropriate care, positive guidance techniques, and child related issues are studied. The main focus of this course will be a preschool experience in which you will be the head teacher. You will plan and implement age-appropriate activities for the 3-5 year olds that attend the *MHS Early Learning Center*. Course Prerequisites: Successful completion of Early Childhood Development and Middle Childhood Development with a final course grade of “B” or higher. **Notes on Course Requirements:** Students must be able to stay until 2:30 PM to work in the *MHS Early Learning Center* on Tuesdays, Wednesdays and Thursdays or arrive by 6:45 AM to work within the *Great Start Elementary Program*. Students must submit a completed portfolio and three (3) teacher recommendations in order to participate in this course. **(1 credit)**

MONTOUR HIGH SCHOOL FINE ARTS PROGRAM

VISUAL ARTS DEPARTMENT COURSES OF STUDY

3D Art and Design I (0700) - This semester course will engage students in the process of creating three dimensional works of art. 3D Art and Design includes building a journal or sketchbook for development of ideas, designs, and reflections. Group critiques and discussions of artwork including peer work and famous artists will be expected. A portfolio of finished works will be developed throughout the semester and be part of the final exam. The students will be working with a variety of sculptural materials and processes. Some media may include ceramic clay, paper, soap, wire, plaster, polymer clay, recycled materials, and wood. **(.5 credit)**

3D Art and Design II (0701) -- This semester course will continue building upon sculptural experiences from 3D Art and Design I. Some new media will be introduced, developing the student's skills and concepts at a more sophisticated level. Group critiques and discussions of artwork, including peer work and famous artists, will be expected. A sketchbook will be required along with the continuation of the portfolio from 3DI. Course Prerequisite: Successful completion of 3D Art and Design I with a "B" or better. **(.5 credit)**

3D Art and Design III (0703) - This semester course will continue with experiences from 3D Art and Design II and a variety of other media developing the student's skills and concepts at a more sophisticated level. This course will develop higher level skills in projects using clay and begin to learn the concept of subtractive sculpture in different media such as plaster. Group critiques of artwork will be expected. A sketchbook will be required along with continuation of the portfolio from previous classes. Course Prerequisite: Successful completion of 3D Art and Design II with a "B" or better. **(.5 credit)**

Drawing and Painting I (0704) - This semester course is designed for students interested in developing fundamental drawing and painting skills. Students will be introduced to a variety of drawing and painting mediums and materials including graphite, charcoal, acrylic paint, and mixed media. The course will involve daily sketchbook drawing, knowledge and application of art elements and design principles, class critiques, and the completion of an electronic portfolio of work. **(.5 credit)**

Drawing and Painting II (0705) - This semester course is designed for students who are interested in further developing their drawing, painting, and mixed media skills. The students will build upon skills learned in Drawing and Painting I. Students will further explore different drawing and painting media introduced in Drawing and Painting I, and will be introduced to a variety of new mediums including printmaking, watercolor, and oil paint. A sketchbook will be required along with continuation of the electronic portfolio from previous classes. Course Prerequisite: Successful completion of Drawing and Painting I with a "B" or better. **(.5 credit)**

Drawing and Painting III (0706) - This semester course is designed for students who are interested in further developing their drawing and painting skills and personal artistic style. The students will apply knowledge from both Drawing and Painting I and II to create more sophisticated works. Students will spend a large portion of the semester completing an independent series of work. A sketchbook will be

required along with continuation of the electronic portfolio from previous classes. Course Prerequisite: Successful completion of Drawing and Painting II with a “B” or better. **(.5 credit)**

Advanced Art (0708) – This semester studio art course is designed for students who have completed at least two courses in each of the 2D and 3D semester courses, and are interested in further developing a high level of creative expression, technical skills, and exploration of various art forms. This year long course may be broken into two semester focuses: two-dimensional and three-dimensional design. Studio activities and media will include drawing, painting, sculpture, ceramics, art history, and growth of individual artistic styles. Students will develop skills necessary for group critiques. At the end of the course students will have a completed a portfolio. **Note:** Submission of the Portfolio created in Drawing and Painting I, II, III and 3D Art and Design I, II, II and grades of “B” or higher in these courses. **(.5 credit*)**

MONTOUR HIGH SCHOOL FINE ARTS PROGRAM

MUSIC DEPARTMENT COURSES OF STUDY

Music Technology Production I (0723) - This is an introductory course in music technology or “electronic music.” Music technology is a “hands on” creative music course exploring all the possibilities for music theory, performance, arrangement and composition made possible through the use of computer technology. Students will learn to operate synthesizers, both keyboard and modular, as well as develop and increase computers skills using the Macintosh platform while learning to use music software programs Garage Band (digital sequencing and MIDI recording). Students will learn the basics of editing music and how to use Mac OSX. Students should be computer literate and have a basic knowledge of music notation and terminology. (.5 credit)

Music Technology Production II (0725) - This semester course is for any student who has successfully completed Music Technology I. This course reinforces MIDI recording and editing techniques through various projects. Students will focus on using Pro Tools to edit and create music throughout the semester. Students should be familiar with Mac OSX and have a basic knowledge of music theory and terminology. (.5 credit)

Fundamentals of Music Theory (0714) - This one semester course that is designed for instrumental/vocal students who wish to expand their musical knowledge and explore musical composition. Emphasis will be on understanding the basics of music theory – melody, harmony, rhythm. This course is highly recommended for students considering music as a major or a career and should be taken prior to enrolling in AP Music Theory. (.5 credit)

AP Music Theory (0722) – This course is a one year course that will continue to cover the concepts introduced in Fundamentals of Music Theory. An emphasis will be placed on ear-training, sight-signing, composition, harmonic movement, and form analysis developing knowledge of melody, harmony, texture, rhythm, form, musical analysis, elementary composition, history and style. Students must have been enrolled in a performance ensemble for 2 years or earned an “A” or “B” in Fundamentals of Music Theory to enroll in this course. It is strongly recommended that any student interested in pursuing music as a major or a minor at the college level enroll in this course. **Note on AP Exam:** Student participation in the end-of-course AP Exam is optional. Students who participate in the AP Exam will be required to pay the cost for registration. (1 credit*)

Freshman Chorus (0721) – This full year course is offered to all ninth grade students, who enjoy singing in a group. This chorus will focus on developing vocal technique while working on a variety of concert material. This class will also focus on basic vocal techniques to help improve ensemble and individual sound. Attendance at after-school rehearsals and concerts are required for those who elect this course. **Note:** Should the final schedule permit, students will be allowed a dual enrollment in Freshman Choir and Freshman Band. Students will be permitted to participate in both courses receiving credit for the official course of record. (1 credit)

Concert Choir (0720) – This full year course is offered to all students in grades 10 – 12. Music ranging from classical to pop will be explored and several performance opportunities will be provided. This is a great opportunity to discover your voice and develop it to the greatest potential, through sight-reading

and ensemble singing. Students may be eligible for honors or district chorus as well. Piano players are encouraged to enroll as accompanists even if they do not wish to sing. Enrollment in Freshman Chorus is strongly recommended before enrolling in this course. After-school rehearsals and performances will be required. **Note:** Should the final schedule permit, students will be allowed a dual enrollment in Concert Choir and Concert Band. Students will be permitted to participate in both courses receiving credit for the official course of record. **(1 credit)**

Honors Concert Choir (0719) - This full year honors course in choral arts is designed to give the serious high school musician the opportunity to learn advanced musical concepts and perform music at a higher level of independence than is present in the ensemble setting. All tenth, eleventh, and twelfth grade students who have been enrolled in Concert Choir or Freshmen Choir may apply and audition for this course. Additional after-school rehearsals and performances will be required. Prerequisites: Each student must successfully complete an application/audition process involving performance mastery of a selected musical work and a background that reflects advanced musical training and ability. All vocalists who meet the prerequisites will be required to complete assignments above and beyond the regular ensemble requirements. These assignments include but are not limited to: prepare the music (and audition for) the PMEA Honors Choir and PMEA District 1 Choir, one term paper per semester based on a pre-approved topic relating to an advanced musical concept, organize and perform in a small vocal ensemble, one independent project per year that is pre-approved and relates to the student's musical interests (i.e. theoretical analysis or a choral work, study of breathing techniques and their effects on tone production, arranging and conducting a work for a choral group), students are encouraged to study privately. **(1 credit*)**

Guitar I (0715) – This one semester course will explore the basics of playing the guitar. We will explore chords (accompanying) and lead playing using acoustic guitars. You will be playing your first song in less than two weeks! Standard musical notation and tablature will also be explored. Anyone who has ever wanted to play the guitar is encouraged to take this class. No experience is necessary! Guitars will be provided for the course and can be made available for student use away from school with teacher approval. **(.5 credit)**

Guitar II (0716) – This one semester course is a continuation of Guitar Class I. We will further explore guitar-playing technique and work to a more advanced level. Concepts covered in this course will include advanced chord patterns, strumming/finger picking, improvisation, composition, electric guitar techniques and bass guitar basics among others. Prerequisite: Guitar I. **(.5 credit)**

Freshman Band (0709) – The Freshman Band is offered to all ninth grade students with experience as a woodwind, brass, or percussion player. This course will focus on development of musicianship and instrumental technique through performance of a variety of concert band literature. The members of the Freshman Band will perform at several concerts throughout the school year, as well as, at Graduation. Students enrolled in Freshman Band will also be eligible to participate in various district and honors bands. After school rehearsals and performances will be required. **Note:** Should the final schedule permit, students will be allowed a dual enrollment in Freshman Choir and Freshman Band. Students will be permitted to participate in both courses receiving credit for the official course of record. **(1 credit)**

Concert Band (0710) – Concert Band is a full year course comprised of students in grades ten, eleven and twelve. Students will learn instrumental techniques, styles and musicianship utilizing standard concert band literature and technique books. The members of the Concert Band will perform at several concerts throughout the school year as well as at graduation. Students enrolled in Concert Band will also be eligible to participate in various district and honors bands. After school rehearsals and performances are required. **Note:** Should the final schedule permit, students will be allowed a dual enrollment in Concert Choir and Concert Band. Students will be permitted to participate in both courses receiving credit for the official course of record. Prerequisite: Freshman Band or by Band Director approval/audition. **(1 credit)**

Honors Concert Band (0711) - This full year honors course is designed to give the serious instrumental music student the opportunity to learn advanced musical concepts and perform music at a higher level of independence than is present in the ensemble setting. All tenth, eleventh and twelfth grade students, who have been enrolled in Concert Band or Freshman Band, may apply and audition for this course. Prerequisites: Each student must successfully complete an application/audition process involving performance mastery of a selected musical work and a background that reflects advanced musical training and ability. All musicians who meet the prerequisites for the honors music program will be required to complete assignments above and beyond the regular ensemble requirements. These assignments include but are not limited to: prepare and audition for the PMEA Honors Band, apply for PMEA District Band, participate in the WACA Honors Band, complete one term paper per semester based on a pre-approved topic relating to an advanced musical concept, organize and perform in a chamber ensemble (i.e. sax quintet, clarinet choir, brass quintet, woodwind quintet, etc.), students are encouraged to study privately. **(1 credit*)**

Percussion Ensemble (0713) – This full year course is designed for the percussion members of the concert band. Students will learn proper percussion technique and musicianship skills utilizing standard concert and percussion ensemble literature and technique books. The ensemble will perform with the concert band and will also function as its own ensemble. The scheduling of this course is by band director approval and/or audition only. After school rehearsals and performances will be required. **(1 credit)**

Honors Percussion Ensemble (0718) - This full year honors course is designed to give the serious percussionist the opportunity to learn advanced musical concepts and perform music at a higher level of independence than is present in the ensemble setting. All tenth, eleventh, and twelfth grade students who have been accepted to the Percussion Ensemble through the audition process may apply for this course. Prerequisites: Each student must successfully complete an application/audition process involving performance mastery of a selected musical work and a background that reflects advanced musical training and ability. All musicians who meet the prerequisites for the honors music program will be required to complete assignments above and beyond the regular ensemble requirements. These assignments include but are not limited to: prepare and audition for the PMEA Honors Band, apply for PMEA District Band, participate in the WACA Honors Band, complete one term paper per semester based on a pre-approved topic relating to an advanced musical concept, organize and perform in a chamber ensemble (i.e. mallet duet, trio, etc.), students are encouraged to study privately. **(1 credit*)**

Jazz Ensemble (0712) - This full year course is for the advanced instrumental student who desires to explore the popular style of jazz. Jazz style, improvisation, and theory will be explored using standard

jazz literature and method books. Students will have numerous playing opportunities and participate in clinics and workshops with guest performers and clinicians. Members of this band will also be members of the concert band. The scheduling of this course is by band director approval and/or audition only. After school rehearsals and performances will be required. **(1 credit)**

Honors Jazz Ensemble (0717) - This full year honors course is designed to give the serious instrumental music student the opportunity to learn advanced musical concepts and perform music at a higher level of independence than is present in the ensemble setting. All tenth, eleventh, and twelfth grade students who have been accepted to the Jazz Ensemble through the audition process may apply for this course. Prerequisites: Each student must successfully complete an application/audition process involving performance mastery of a selected musical work and a background that reflects advanced musical training and ability. All musicians who meet the prerequisites for the honors music program will be required to complete assignments above and beyond the regular ensemble requirements. These assignments include but are not limited to: prepare and audition for the PMEA Honors Jazz Band, apply for PMEA District Band, participate in the WACA Honors Band, complete one term paper per semester based on a pre-approved topic relating to an advanced musical concept, organize and perform in a chamber ensemble (i.e. sax quintet, jazz combo, brass quintet, etc.), students are encouraged to study privately. **(1 credit*)**

Marching Band (0727) – Students participating in the Spartan Marching Band will be required to take this first semester course. The requirements of the course, as outlined in the Spartan Marching Band Student/Parent Handbook, will be assessed and evaluated by the Spartan Marching Band Director, as Pass/Fail, and will appear on a student’s Report Card and Academic Transcript. **Please note that students will not be permitted to drop the Marching Band course from their schedule after Pre-Band Camp has begun.** Students will be assessed and evaluated, during rehearsals and performances, based upon: Attendance, Preparedness, Execution and Effort. At the conclusion of each grading period students must have accumulated at least seventy-five percent (75%) of the available points to receive a grade of Pass for the nine week grading period. Students, who receive less than seventy-five (75%) of the available points, will receive a Fail for the nine week grading period. Students, who receive a grade of Fail, for either the first or second nine week grading period will receive a final grade of Fail. **Note:** All Marching Band course requirements are available for review in the Spartan Marching Band Student/Parent Handbook. **(.5 credit)**

PHYSICAL / HEALTH EDUCATION DEPARTMENT COURSES OF STUDY

Note on Physical/Health Education Programming: Students are required to complete one (1) credit of Physical/Health Education specific to the course offerings below. Students may select any combination of courses below and may take a course more than once. Students are not permitted to schedule and participate in more than one (1) credit of Physical/Health Education, per school year, without the prior approval of the High School Principal.

Partners Physical Education (0913) – This specially designed course is intended to include students of a diverse population, who are not able to participate in the unrestricted Physical Education Program. These students are joined by students without restrictions and together all students help each other achieve the goals of the Physical Education class. The variety of activities offered will contribute to the physical, mental, and social well-being of the student. The activities included in this class are cooperative games, basketball, gym hockey, flag/football, ultimate frisbee, indoor/outdoor soccer, team handball/speedball, volleyball, lacrosse, badminton, pickle ball, weight training, aerobic training, and aquatic activities. **Notes:** This course is open to students in grades eleven and twelve. This course can be taken more than once specific to meeting Physical/Health Education Graduation Requirements. **(.5 credit)**

Team and Individual Sports (0919) – Team and Individual Sports refers to sports that are practiced between opposing teams, where the players interact directly and simultaneously to achieve an objective. The objective generally involves team members facilitating the movement of a ball or similar item in accordance with a set of rules, in order to score points. Cooperative games, basketball, gym hockey, flag/football, ultimate frisbee, indoor/outdoor soccer, team handball/speedball, volleyball, lacrosse, badminton, pickle ball and aquatic activities. **Note:** This course can be taken more than once specific to meeting Physical/Health Education Graduation Requirements. **(.5 credit)**

Lifetime Activities (0920) - Lifetime activities refers to sports that you can enjoy for an entire lifetime. Sports such as volleyball, racquet sports, soccer, ultimate Frisbee, basketball, table tennis, hockey, flag football, speedball, lacrosse, aquatic games and power walking will be explored. **Note:** This course can be taken more than once specific to meeting Physical/Health Education Graduation Requirements. **(.5 credit)**

Fitness (0915) – Fitness refers to an activity in which you focus on physical fitness. Physical fitness is considered a measure of the body’s ability to function efficiently and effectively in work, sport and leisure activities. Weight training, fitness walking, TRX training, dynamic fitness, boot camp fitness, sculpt and tone, core training, plyometrics, running, aerobics, pilates, cardio-kickboxing, yoga, spinning, cardiovascular exercise, T25, Pi Yo and aquatic games will be explored. **Note:** This course can be taken more than once specific to meeting Physical/Health Education Graduation Requirements. **(.5 credit)**

Aquatic Conditioning (0916) – This semester course will introduce students to the basic strokes and skills necessary for recreational swimming. The students will also perform aquatic fitness activities and games such as water aerobics, distance swimming, speed swimming, water basketball, and water polo in order to improve their overall fitness. **Note:** This course can be taken more than once specific to meeting Physical/Health Education Graduation Requirements. **(.5 credit)**

Strength and Conditioning (0921) – This course will introduce students to weightlifting and conditioning activities designed for students and student-athletes. The course is designed for students wanting to get stronger while improving flexibility and endurance. Students taking this course will be required to fully participate and in all activities. There will be specific activities designed for students participating in team sports. In and out of sports season programs will be offered. Progress Maps will be completed daily to measure gains and losses achieved throughout the semester. **Note:** This course can be taken more than once specific to meeting Physical/Health Education Graduation Requirements. **(.5 credit*)**

Advanced Physical Education (0917) - This course is designed particularly for the student-athlete. Students will be exposed to a variety of concepts for personal development in health related fitness and physical skills. These skills include strength building activities, cardiovascular exercises, endurance training, and flexibility increasing exercise. Students will also have the opportunity to compete in various sports at a very competitive level. Students taking this course will be required to participate fully and cooperatively in all activities, take tests and quizzes on health related units, participate in self-assessment and reflection and develop a personal fitness plan. **Note:** This course can be taken more than once specific to meeting Physical/Health Education Graduation Requirements. **(.5 credit*)**

Health Education (0914) – This semester course will reinforce the concepts that have been introduced to students that relate to a person’s lifelong pursuit of wellness. Course content includes certification in CPR/AED, drug abuse, personality development, fitness testing, development of a personal fitness plan, disordered eating patterns among teens, teen sexuality, dating abuse and health issues facing society today including lifestyle related diseases. **Note:** This course cannot be taken more than once specific to meeting Physical/Health Education Graduation Requirements. **(.5 credit)**

Health Education Online Course Overview

Montour High School students, who wish to participate in a Health Education online course to meet their Physical/Health Education one (1) credit requirement for graduation, are to review the following guidelines and complete the application in full noting that their approved participation in this course will be graded as a Pass (P)/Fail (F), will be non-weighted, will not be included with the GPA/QPA and Rank in Class calculations and will have a credit value of .5 (Health Education I (0908)) and .5 (Health Education II (0909)). Upon review and completion the application is to be submitted to the student’s School Counselor for review. After review by the School Counselor, the application will be forwarded to the High School Principal for final review and approval. If approved by the High School Principal, the student will be scheduled into the course(s) by their School Counselor.

Montour High School students, who wish to participate in a Health Education online course, must meet the following criteria...

- Students in grades ten, eleven and twelve are eligible to schedule and participate in a Health Education online course.
- Student must be in good academic standing, cumulative GPA of 3.5 or higher upon application, and working toward the successful completion of all graduation requirements, as per the MHS Courses of Study.

- Student must be taking a full academic schedule (seven credits). Student may not have a Study Hall in their schedule.
- Student must provide a written academic rationale specific to why they are requesting approval to take a Health Education Online Course. Rationale must be specific and academically focused.
- The High School Principal reserves the right to approve or deny a request based upon a student's academic standing and their academic rationale for the request.

PARKWAY WEST CAREER AND TECHNICAL CENTER CAREER MAJORS

Note on Parkway CTC career majors: Students who successfully complete Parkway West CTC programs may be eligible to earn articulated college credit from the following post-secondary institutions. Scholarships from the post-secondary institutes noted below and from industry may also be available.

Belmont Technical College
Butler County Community College
California University
Community College of Allegheny County
Empire Education Group
Indiana University of Pennsylvania
ITT Technical Institute
Art Institute of Pittsburgh

Pennsylvania College of Technology
Pittsburgh Culinary Arts Institute
Pittsburgh Technical Institute
Rosedale Technical Institute
Triangle Tech, Inc.
University of Northwest Ohio
New Castle School of Trades

AUTO BODY REPAIR

The Auto Body Repair program is certified by the National Automotive Technology Education Foundation (NATEF) and provides instruction in the most current techniques for repair and replacement of damaged automobile parts. Students learn to repair collision damage and to replace quarter panels, door skins, and fenders. The curriculum also includes painting, MIG welding, collision repair, frame straightening, and damage analysis. Students gain experience in mixing and tinting paint, custom painting, computerized estimating, and auto detailing. Practical experience is also provided through a full-service auto body repair shop. Students have the opportunity to earn PPG Blue Level Paint and I-Car MIG Welding certifications. They are also eligible to earn I-Car Points. **(3 credits)**

AUTOMOTIVE TECHNOLOGY

Automotive Technology is certified by the National Automotive Technology Education Foundation (NATEF) and affiliated with all of the major automotive manufacturers through Automotive Youth Educational Systems (AYES). Students prepare to take the Pennsylvania State Inspection License examination. Students learn basic vehicle maintenance, repair, and replacement of drive trains, brake systems, chassis components, and fuel and electrical systems. Special emphasis is placed on troubleshooting and engine performance via the use of state-of-the-art electronic diagnostic equipment. Practical experience is also provided in the auto repair shop. Under the Automotive Youth Educational Systems (AYES) apprenticeship program, students may qualify to become an apprentice working under mentor technicians. Students can earn certifications from AYES, the National Institute for Automotive Service Excellence (ASE), and the Coordinating Committee for Automotive Repair (CCAR). **(3 credits)**

CONSTRUCTION TECHNOLOGY CLUSTER

During a student's first year at Parkway West CTC, he/she will select one program that he/she would like to participate in for one quarter. This program will be guaranteed to occur at some point during the student's first year. Students will then be randomly scheduled for the remainder of the school year. The construction cluster program includes: Building Construction Technology, Electrical Systems Technology, HVAC/R, Masonry and Welding Technology. If a student is interested in exploring the

fifth construction related program, they will have the opportunity to do so during the first quarter of their second year at Parkway West CTC. **(3 credits)**

Building Construction Technology – The Building Construction Technology program will afford students the opportunity to apply technical knowledge and skills to layout, fabricate, erect, install and repair structures and fixtures using hand and power tools, scaffolding, and specialty tools used in the construction trade. This program includes instruction in common systems of framing, construction materials, estimating, blueprint reading and finish carpentry techniques. Students will be given the opportunity to earn a 10-hour Occupational Safety and Health Administration (OSHA) Construction card.

Electrical Systems Technology - The Electrical Systems Technology program teaches students the integral components of the electrical industry for entry level employment in residential, commercial, and/or light industrial locations. The basis of instruction is in the layout, assembly, installation, wiring, maintenance, and trouble-shooting of electrical systems. Understanding programmable logistical controls (PLC's) and how transformers operate are also covered.

HVAC/R – Heating, Ventilation, Air-Conditioning and Refrigeration which has been newly renovated with state-of-the industry equipment, provides instruction in basic and advanced electrical theory, troubleshooting and repair of residential and commercial heating, air-conditioning, and refrigeration systems. Students will be given the opportunity to earn a ten hour Occupational and Health Administration (OSHA) Construction Card.

Masonry – The Masonry program offers students instruction in the construction of brick and block walls for residential or commercial structures. Learn techniques of ornamental masonry, ceramic tile, and natural or cultured stone installations. New to the program, students will also be introduced to versa-lok, an interlocking dry wall system. Students will be given the opportunity to earn a 10-hour Occupational Safety and Health Administration (OSHA) Construction card and may have a greater opportunity to join the Bricklayers' Union (BAC) after graduation.

Welding Technology - The Welding Technology program covers several types of welding processes by which metal may be bent, cut, or welded together, including oxy-fuel, shielded metal arc, gas metal arc, gas tungsten arc, flux core welding, carbon arc, plasma cutting, and oxy-fuel brazing. Students will learn the importance of industry safety, measuring instruments, hand tools, grinders, metallurgy, blueprint reading, electrical principles, layout/design, and fabrication, as well as how to prepare materials lists for cost estimates. Students have the opportunity to earn the American Welding Society (AWS) certification.

COSMETOLOGY

The Cosmetology program prepares students to perform technical services including all aspects of hair, skin/nail beautification, and personal maintenance. These skills are supported and reinforced with theoretical background including sanitation, chemistry, anatomy, and physiology, as well as structure, function, and disorders of the hair, skin, nails, and scalp. The Cosmetology program helps students develop into well-rounded professionals, who practice real-world services in Parkway's salon, which is open to the public two days a week. Utilizing an integrated approach to teaching and learning, students learn about interpersonal relations, professional attitude, and career fundamentals along with technical

knowledge and skills. The techniques and abilities acquired in the program are practiced and tested on mannequins, classmates, and the general public. Students who are able to attend this program for three years will have the opportunity to earn 1,250 hours of state-regulated course requirements to take the state licensing exam to be licensed cosmetologist which encompasses providing services to the public for hair, skin, and nails. Students who are able to take one or two years of instruction in this program, may choose from the following specialized licensed fields: **(3 credits)**

Nail Technician License – This license requires 200 hours of instruction and can be complete within one semester. An individual holding a nail technician license is qualified to perform nail technology services only.

Cosmetology Teacher License – Prerequisite for this course is to have successfully passed at least one of the above licensures. This license requires 500 hours of required studies and can be complete within one year. An individual holding a teacher's license is qualified to perform the functions of a teacher in whichever specialized area the individual has obtained licensure.

CULINARY ARTS

The Culinary Arts program provides practical instruction in the preparation of banquet, buffet, and a la carte styles of food preparation. Practical experience is provided through the operation and management of an in-house, full-service restaurant and beyond the restaurant environment to provide goods and services for Parkway's food store, where pastries and select meats are sold. Students learn to design cakes, sculpt ice, and prepare many different types of cuisine. First-year students spend one school year in Culinary Arts Level I. Second and third-year students will advance into Culinary Arts Levels II and III. Senior students who have completed at least two years of Culinary Arts will have the opportunity to earn both the National Restaurant Association's ServSafe certification and the American Culinary Federation certification. **(3 credits)**

DIGITAL MULTIMEDIA TECHNOLOGY

The Digital Multimedia Technology program provides instruction in basic graphic design using computers and design software such as Adobe Illustrator, Acrobat, Photoshop, InDesign, and Dreamweaver. Students learn entry-level skills for desktop publishing, web design, digital photography, and graphic animation utilizing Flash. Several software applications are used to design, edit, and publish documents, images, and multimedia presentations in print and electronic form. From designing a poster to developing a website, students will have the opportunity to apply their creativity to projects that resemble those in the real world. Students can earn the Adobe Certified Associate certification in Visual Communication and the Adobe Certified Associate in Web Communication certification via Certiport. **(3 credits)**

INFORMATION TECHNOLOGY ESSENTIALS

The Information Technology Essentials program prepares students who are interested in networking and computer diagnostics want to be a part of an industry that never stands still for entry level positions within the information technology field. Beginning with Cisco IT Essentials, PC hardware and software, network operating systems are introduced. Students initially prepare for CompTIA A+ and CompTIA Server+ certifications and then, through the Cisco CCNA Discovery course, students learn networking concepts based on typical networks that one might encounter in a home or small office, or in larger, more complex enterprise models. Finally, students can prepare for the Cisco CCENT and Cisco CCNA certifications. **(3 credits)**

HEALTH ASSISTANT

The Health Assistant program provides students the opportunity to participate in a wide-range of real-world clinical and job shadowing experiences at many different local healthcare providers. Clinical experiences may include: child care, long term care, emergency nursing, recovery room nursing, radiology, medical records, operating room observation, pharmacy, physical/occupational therapy, and/or lab technician. Students will have the opportunity to earn and complete the American Heart Association “CPR for Healthcare Providers” certification and the following certifications in relation to the Health Care industry: Pennsylvania State Nurse Aid Registry (C.N.A). For first and second year students, instruction begins with anatomy, physiology and medical terminology. Special attention is given to medical office examinations, treatment and patient care. Personal Care Home Direct Care Staff: For first and second year students, this component offers a competency test from the PA Department of Public Welfare and it prepares students to work in a personal care home as a direct care giver.

Pharmacy Technician Certification (CPhT): After successful completion of this one-year twelfth grade course, students will assist the pharmacist in a variety of tasks. Module and lab work includes: controlled substances, laws and regulations, drug classifications, frequently prescribed medications, prescription information, preparing/dispensing prescriptions, calculations, sterile products, unit dose and repackaging. **Phlebotomy Technician Certification (CPT):** This is a one semester certification course directed towards twelfth grade students. Module and lab work includes: anatomy and physiology, infection control, safety and compliance, patient preparation, collection techniques, and processing collected samples. Students must demonstrate a minimum of thirty successful Venipunctures and ten successful capillary punctures. **(3 credits)**

PUBLIC SAFETY TECHNOLOGY

The Public Safety Technology program focuses on careers relating to emergency medical services, firefighting, law enforcement, and emergency management services. In order to successfully complete the program, students must meet minimum proficiency levels in all public safety areas. Instruction is provided in disaster situations/management, hazardous materials handling, pre-hospital medical care, map reading, firefighting, the judicial system, and emergency dispatching. Students have the opportunity to earn the following certifications: Emergency Medical Technician- Basic (EMT-B), Basic Vehicle Rescue (BVR), Emergency Vehicle Operators Course (EVOC), Hazardous Materials Recognition and Identification (Haz-Mat R&I), and multiple Federal Emergency Management Agency certifications. **(3 credits)**

VETERINARY ASSISTANT TECHNOLOGY

The Veterinary Assistant Technology or ‘Vet Tech’ Program prepares students to work in an entry level position in a veterinary practice aiding the veterinarian and the veterinary technician. A sample of the Veterinary Assistant’s responsibilities include maintaining the medical records, scheduling, client education, laboratory procedures, nursing duties, surgical preparation and assisting. Students will also have a solid educational base on which to build a post-secondary degree. This program may lead to additional career pathways such as Animal Trainer, Animal Breeders, Non-Farm Animal Caretakers, Laboratory Animal Caretakers, Groomers, Animal Control Worker, Veterinary Technician, Veterinary Technologist, and Veterinarian. Upon accreditation, students may become eligible to earn the following certifications; Purina Certified Weight Coach; Pharmacy Technician; and Veterinary Assistant. **(3 credits)**

SPORTS MEDICINE AND REHABILITATION THERAPY TECHNOLOGY (SMARTT)

The Sports Medicine and Rehabilitation Therapy Technology (SMARTT) Program prepares students to work in the field of physical therapy, occupational therapy and sports medicine. Students will develop skills in prevention, diagnosis, differential diagnosis, assessment, prognosis and the rehabilitation of injuries and other health conditions. Students will learn the principles of developing a plan of care including: evaluation, interventions (exercise, manual therapy, modalities and neuro re-education), assessment, goal setting and discharge. Students will also learn how to develop a proper diet for healthy individuals and tailor it for special populations through a comprehensive understanding of nutrition. Upon successful completion, students should be able to assist in the development and implementation of a plan of care for healthy and special populations.

Careers available directly out of the program could include: Personal Trainer, Coach, Physical Therapy Aid. This program also provides a solid educational base on which to build a post-secondary degree or advanced certification. Careers available with additional post-secondary schooling include: Personal Trainer, Athletic Trainer, Physical Therapist, Physical Therapist Assistant, Occupational Therapist, Certified Occupational Therapist Assistant, Strength and Conditioning Coach, Medical and Exercise Physiology researcher, Sports Psychologist, Dietitian and Exercise Physiologist. **(3 credits)**

MONTOUR HIGH SCHOOL NATIONAL HONOR SOCIETY

Eligibility:

- Completed a minimum of five (5) semesters at Montour High School
- Maintained a cumulative grade point average of **4.0** are initially eligible to be considered for election

Election Process:

- Students who meet minimum requirements are invited to a meeting where information and materials are distributed and the election process is described
- Students complete surveys and submit by required date
- Faculty completes evaluations of candidates with whom they are familiar
- Faculty committee meets and evaluates:
 - Student surveys
 - Faculty evaluations
 - Candidates' transcripts, current grades, rigor/relevance of course work, citizenship, attendance
 - Additional criteria for consideration
 - **SCHOLARSHIP** (noted above)
 - **CHARACTER**
 - **LEADERSHIP**
 - **SERVICE**
- Faculty committee votes on each individual, based on the mentioned criteria and information
- Selected candidates will be posted and required to attend meeting upon their selection
- New members will be installed at a formal ceremony

CHARACTER

- Takes criticism willingly and accepts recommendations graciously
- Constantly exemplifies desirable qualities of personality (cheerfulness, friendliness, poise, stability)
- Upholds principles of morality and ethics
- Cooperates by complying with school regulations concerning property, programs, office, halls, etc.
- Demonstrates highest standards of honesty and reliability
- Shows courtesy, concern, and respect for others
- Observes instructions and rules, punctuality, and faithfulness in obligations both inside and outside the classroom
- Has powers of concentration and sustained attention as shown by perseverance and application to studies
- Manifests truthfulness in acknowledging obedience of rules, avoiding cheating in written work, and showing unwillingness to profit by the mistakes of others
- Actively helps to rid the school of bad influences or environment

LEADERSHIP

- Is resourceful in proposing new problems, applying principles, making suggestions
- Demonstrates leadership in promoting school activities
- Exercises influence on peers in upholding school ideals
- Contributes ideas that improve the civic life of the school

- Is able to delegate responsibilities
- Exemplifies positive qualities
- Inspires positive behavior in others
- Demonstrates academic initiative
- Successfully holds school offices or positions or responsibility, conducts business efficiently and effectively, and is reliable and dependable without prodding
- Demonstrates leadership in classroom and in school activities
- Is thoroughly dependable in any responsibility he accepts

SERVICE

- Willingness to uphold scholarship and maintain a loyal school attitude
- Volunteers dependable and well-organized assistance, is available on his own time, and is sacrificing
- Works well with others and is willing to take on difficult or inconspicuous responsibilities
- Willingness to render cheerfully and enthusiastically any requested service to the school
- Willingness to represent his class or school in interclass and interscholastic competition
- Willingness to do committee and staff work
- Readiness to show courtesy by assisting visitors, teachers, and students
- Participates in a designated number of community service events

Dismissal Procedures:

- Members should understand fully that they are liable for dismissal if they do not maintain the standards of scholarship, service and character that we used as the basis for their selection.
- Members who fall below the standards, which were the basis for their selection, shall be promptly warned in writing by the chapter advisor and given a reasonable amount of time to correct the deficiency. Temporary probation from the organization is also a consideration by the faculty council and may be determined on a case by case basis. Probation may occur as a result of academic, service, leadership, or character obligations not being properly fulfilled. In the case of flagrant violation of school rules or civic law, a member does not necessarily have to be warned.
- The faculty council shall determine when an individual has exceeded a reasonable number of warnings.
- In all cases of impending dismissal, a member shall have the right to a hearing before faculty council.
- A member who has been dismissed may appeal the decision of the faculty council under the same rules for disciplinary appeals in the school district.

MONTOUR HIGH SCHOOL GUIDLEINES FOR OFF-CAMPUS COURSES (Alternate Instruction Courses Policy #128)

General Requirements

Students may take courses at local universities or institutions, or approved providers assuming that this arrangement does not interfere with meeting district graduation requirements.

Course(s) must be pre-approved by the building principal or designee prior to enrollment. The student and parent/guardian(s) will complete a district form and provide all outlined information required on the form. Upon approval by the building principal or designee, the student may enroll and register for the course.

Pre-approval for each course will be determined by the type of course attempted, the curriculum area the course coincides with, and the course description. The course subject must be included in the district's planned instruction and be relevant to established academic standards. Course providers will be reviewed by the building principal and the academic department chairperson to verify that the provider and program qualify based upon established district standards. The building principal reserves the right to deny a request if the provider and/or program do not qualify.

Only students in grades 9-12 may submit requests for approval of alternate courses. A maximum of two (2) courses may be approved per student, per school year (July 1 - June 30). Course(s) must be taken during a summer, fall, or spring term.

Course(s) shall be attended at one of the Commonwealth of PA, four year granting, state institutions and/or a county private-accredited, institution of higher learning and/or county community college or an approved provider as noted above.

The school district shall not be responsible for the cost of tuition & fees, books, supplies, meals, or transportation.

Course Credit Value Toward Graduation

Only those approved courses taken to recoup credit lost during the school year, (i.e. due to failing a required course for graduation) and/or those courses taken within the Dual Enrollment program may be used as credit toward graduation.

- The student shall receive the same letter grade for credit that is assigned by the alternate instruction resource.
- The assigned student grade for successfully completed work shall not be weighted for purposes of computing the student's grade point average, unless prior approval was granted by the building principal before the course work was begun.

Other approved courses will not be granted credit, but may be used to satisfy prerequisites for courses offered within the high school curriculum. Course prerequisites are established for each high school course of study and are published in the courses of study handbook. Alternate courses taken to satisfy

prerequisites will not be factored into the student's class rank. Such course(s) will also not be included on the student's high school transcript.

APPENDIX

Child Identification Activities

The Montour School District employs the following procedures for locating, identifying and evaluating needs of school-aged students requiring special programs and/or services. As mandated by Section 1402 of the School Code, the district routinely conducts screenings of a child's hearing acuity and visual acuity. Screening for speech and language skills is on an ongoing basis by referring children to the therapist. Gross motor and fine motor skills, academic skills and social/emotional skills are assessed by classroom teachers and support staff on an ongoing basis. Building level screening meetings are held monthly to conduct various ongoing screening activities which include: Review of group-based data, such as enrollment and health records, report cards, ability and achievement test scores. Needs identified from these sources, as well as information from parents and agencies, are assessed, noted within the student's record, and discussed with parents.

If appropriate, the child screening team recommends interventions to be implemented by the instructional staff or to document the need for further evaluation.

If it is determined that a student may be eligible for special education, the student is referred for a multi-disciplinary team evaluation. After the evaluation is completed, an evaluation report is prepared with parent involvement. The report includes specific recommendations for the types of intervention necessary to meet the needs of the student.

When the multi-disciplinary team's evaluation report is completed and in accordance with state regulations, an IEP Team meeting with parent involvement is scheduled to develop an appropriate individualized education plan (IEP) for the students. Parents of students who suspect that their child is exceptional and in need of special education services may request a multi-disciplinary team evaluation of their child by submitting a written request to the building principal.

Services for School Age Exceptional Students

The school district provides a free, appropriate public education to exceptional students according to state and federal mandates. To be eligible, the child must be of school age, require specially designed instruction, and meet eligibility for mentally gifted and/or one or more of the following physical or mental disabilities as set forth in state and federal regulations: Autism/pervasive developmental disorder, blindness/visual impairment, deafness/hearing impairment, mental retardation, multi-handicap, neurological impairment, physical disability, emotional disturbance, specific learning disability, speech/language impairment, and other health impairment.

Services designed to meet the needs of eligible students include supportive intervention in the regular class, supplemental in the regular class or in a special education resource program, placement in a part-time or full-time special education class in a regular school or placement in a full-time special education program outside of the regular school. The extent of special educational services are determined by the parents and staff at the IEP Team meeting and are based on the student's identified needs and abilities, chronological age, and the intensity of the specific interventions. The school district also provides

related services, such as transportation, physical therapy, and occupational therapy, that are required to enable the student to derive educational benefits.

Prior to the initiation of services, parents are presented a “Notice of Recommended Educational Placement” (NOREP) with which they may agree or disagree. If parents disagree with the program being recommended, they have the right to request a pre-hearing conference, mediation, and/or a due process hearing.

Copies of the Procedural Safeguards Notice are issued when Permission to Evaluate/ Reevaluate Form is sent to parents and at each IEP Team meeting. The school district provides program services for students identified as being mentally gifted, K-12.

Early Intervention

Children who will be at least three years of age by September 1 and are suspected to have a disability in one or more of the following areas may be eligible to receive Early Intervention Educational Services: Physical development, cognitive and sensory development, learning problems, speech/language development, social/emotional development, other significant health impairment. Parents can contact Project DART, Allegheny Intermediate Unit, Barbara Minzenberg, 412-394-5739.

Chapter 15 (504) Notice

The Montour School District complies with the requirements of Section 504 of the Rehabilitation Act of 1973 and its implementing regulations for all students with known handicapping conditions. Section 504 and its accompanying regulations protect otherwise qualified handicapped students who have physical, mental, or health impairment from discrimination because of those impairments. The law and its regulations require public educational agencies to ensure that these students have equal opportunity to participate in the school program and extracurricular activities to the maximum extent appropriate. For further information, please contact Mrs. Cindy Caliguire, Pupil Services. School districts are required to provide these students with aids, services, and accommodations that are designed to meet the educational needs of the students as adequately as the needs of non-handicapped students are met. These aids, services and accommodations can include, but are not limited to, special transportation, modified equipment, and adjustments in the student’s instructional program or the administration of needed medication.

Any questions or concerns please contact Mrs. Cindy Caliguire, Pupil Services, 412-490-6500.

Non-Discrimination Policy

The Montour District is an equal opportunity education institution and will not discriminate on the basis of race, color, national origin, sex, handicap or limited English proficiency in its activities, programs or employment practices as required by Title VI, Title IX and Section 504.

For information regarding civil rights or grievance procedures, contact the District, Superintendent and Title IX coordinator at the Administration Building. For information regarding services, activities, and

facilities that are accessible to and usable by handicapped persons, contact the Superintendent at the Administration Building.