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## **IHS COURSE DESCRIPTION HANDBOOK 2019-2020** **(sh.iasd.cc)**

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**\*2019-2020 Scheduling forms are available at  
[sh.iasd.cc/counseling office/course description book](http://sh.iasd.cc/counseling_office/course_description_book).**

**It is the policy of the Indiana Area School District not to discriminate on the basis of sex, race, religion, color, national origin, handicap or age in its educational and vocational programs, activities, or employment as required by Title IX, Section 504 and Title VI.**

Dear IHS Families:

The Indiana Area Senior High School administration, school counselors, and faculty invite you to review the *2019-2020* IHS Course Description Handbook. The handbook is a valuable resource to prepare for the upcoming school year.

This course description handbook is designed to assist you and your child to plan for an appropriate academic program at the senior high school. Course descriptions, scheduling parameters, and graduation requirement information are included in the handbook. We encourage you to read the information and to communicate with school counselors and teachers to optimize scheduling decisions. Courses identified and described on the following pages are current as of the date of publication, and availability is subject to change based upon student enrollment and building scheduling needs.

Careful planning will ensure a smooth start for the new school year. Students are reminded that teachers and other staff members are excellent sources of advice in choosing courses. We look forward to assisting you during this time of academic preparation.

We wish you every success in the coming school year.

Sincerely,  
Wade L. McElheny  
Principal

Erin Eisenman  
Assistant Principal

## **Indiana Area School District GRADUATION REQUIREMENTS**

Upon the action of the Board of Education, a student will graduated when he/she has met the following requirements of **Chapter 4, Section 4.24: Graduation Requirements** and our local requirements for graduation.

1. Students will complete the following course and credit requirements inclusive from grades 9 through 12.

<b>Subject</b>	<b>Credit Requirements</b>
<b>English</b>	4
<b>Mathematics</b>	3
<b>Science</b>	3
<b>Social Studies</b> (see #2)	4
<b>Health &amp; Physical Education</b>	2
<b>Computer Technology</b> (see #3)	.5
<b>Family &amp; Consumer Science</b> (see #4)	.5
<b>Electives</b>	7
<b>Total</b>	<b>24</b>

2. Students participating in a three-year Indiana County Technology program will be required to complete only three credits in Social Studies. Such students are exempted from taking a Social Studies class during their senior year.
3. All students must pass Computer Applications prior to graduation. The Computer Technology credits are satisfied for students enrolled in the following program areas at the Indiana County Technology Center –Network Communications Digital Media Technology, Graphics and Electronic Media, and Machining Technology. Students enrolled in other programs which satisfy these requirements will be approved for credit on an individual basis.
4. All students must successfully complete a .5 credit Family and Consumer Science Department course entitled “On Your Own”, or “Child Development and Preschool” (Senior High course 514/515) prior to graduation.
5. Students will demonstrate satisfactory school attendance as specified by the district’s attendance policy.
6. All students will complete a culminating project to assure that students are able to apply, analyze, synthesize, and evaluate information and communicate significant knowledge and understanding about post-secondary education and career goals.
7. Students who do not attain a score of Proficient on Keystone Algebra I, Biology, and/or Literature Exams are required to successfully complete any district or available PDE-based remediation programs.
8. Beginning with the graduating class of 2022, students must score Proficient or higher on Algebra I, Biology, and Literature Keystone Exams in order to graduate from high school, or students may complete available PDE-designated online projects should students not attain a score of Proficiency on respective Keystone Exams after two attempts on any exam.
9. Children with disabilities who successfully complete a special program developed by an Individualized Education Program team under the individuals with Disabilities Act, shall be granted and issued a regular high school diploma. This applies if the special education program of a child with a disability does not otherwise meet all requirements of Chapter
10. A student who successfully completes required coursework and earns necessary graduation credit may graduate early from high school. The student will receive his/her diploma in June of the graduation year. It is encouraged that planning for early graduation should occur during the freshman and sophomore years of attendance

### **COLLEGIATE ATHLETIC ELIGIBILITY**

The National Collegiate Athletic Association (NCAA) and the National Association of Intercollegiate Athletics (NAIA) works in co-operation with member colleges and universities regulate athletic eligibility for college students. **Any prospective student athlete who wishes to play intercollegiate athletics at NCAA Division I or II levels must register with the NCAA Eligibility Center and meet NCAA eligibility requirements.** Required information includes minimum course credits, Grade Point Average, and SAT or ACT score requirements. Information about these standards is available in the Guidance Office, Athletic Office and on-line at [www.ncaastudent.org](http://www.ncaastudent.org). Registration for the NCAA Eligibility Center should be completed on-line. **It is the responsibility of the student to register for eligibility as well as authorize the School Counseling Office to release a copy of his/her transcript to the NCAA. Official SAT/ACT test scores must be sent from the testing agency directly to the NCAA Eligibility Center using code 9999.**

## **THE CULMINATING PROJECT**

Students will be required to complete a culminating project. The purpose of the culminating project is to assure that students are able to apply, analyze, synthesize, and evaluate information and communicate significant knowledge and understanding.

The culminating project will demonstrate attainment of competencies in the following areas:

- Written Communication
- Oral Proficiency
- Technology Literacy
- Research Skills
- Career Awareness

### **Roles and Responsibilities**

#### Student Role

- Complete the requirements of all Culminating Project components at each grade level as specified in the plan
- Become familiar with use of rubrics that support the Culminating Project activities
- Document significant achievements which are worthy of placement in the Student Profile
- Periodically review and update his/her Student Profile
- Be prepared to defend, through documentation, any entry in his/her Student Profile

#### Parent/Guardian Role

- Review the requirements for graduation and the components of the Culminating Project
- Sign the Culminating Project Acknowledgement Form
- Support and encourage the student throughout the process
- Work with the guidance department to insure that the student completes necessary components at each grade level

## **DESCRIPTION OF THE NINTH GRADE GRADUATION PROJECT COMPONENT**

The Culminating Project is not formally initiated until grade ten. However, various career exploratory activities will take place during the ninth grade year, which will provide information for students to utilize as they progress through the Project in grades ten through twelve. These will be included in the student's Culminating Project Portfolio.

### **Activities:**

- Completion of an aptitude interest assessment
- Completion of a career interest survey
- Completion of a personal reflective writing sample based upon career exploration

### **Purpose:**

- To assess individual student vocational interests and explore various career options based upon these interests.

**Competencies:** Students will have an opportunity to develop skills in the following:

- Written Communication
- Technology Literacy
- Research Skills
- Career Awareness

**Activities:** The guidance counselors, ninth grade social studies and English teachers will facilitate these activities. Activities include:

- Students will complete Aptitude Interest Assessment
- Students will complete the Career Interest Survey
- Students will complete a personal reflective writing sample based upon career exploration

The following items will be included in the Culminating Project Portfolio:

- Reflective Writing
- Career Interest Survey
- Aptitude/Interest Assessment

### **Evaluation:**

- The ninth grade English teachers will assist students in completing reflective writing sample.
- The completion of the Aptitude Interest Assessment and the Career Interest Survey will be validated by the guidance counselors.
- Successful completion of the ninth grade activities will be documented by placing student work in a Culminating Project Portfolio. The portfolios will be made available to the senior high school faculty at the conclusion of the ninth grade year.

## **DESCRIPTION OF THE TENTH GRADE GRADUATION PROJECT COMPONENT**

### **Purpose:**

- To enable students to explore a self-chosen career option and provide opportunities for the student to synthesize and present that information in written and oral form
- To provide opportunities for the student to design his/her personal Student Profile

**Competencies:** Students will have an opportunity to develop skills in the following:

- Written Communication
- Oral Proficiency
- Technology Literacy
- Research Skills
- Career Awareness

### **Activities:**

#### Project Acknowledgement

- The social studies teacher will facilitate the completion of the Culminating Project Acknowledgement Form.

#### Career Awareness

The English teachers and guidance counselors will facilitate these activities as part of the tenth grade planned course of study. The tenth grade component will include the following:

- Completion of an interest inventory utilizing career exploration software
- Submission of a written paper based upon research gained from career exploration software
- Development and presentation of an oral report relating to research
- Utilization of technology in the preparation of the written and oral presentation

#### Student Profile

The business Department will also facilitate the development of a word-processed personal Student Profile in the context of the English classes. The Student Profile will include:

- Biographical information
- Educational status
- Extra curricular activities
- Community activities or organizations
- Volunteer work/community service
- School and community awards and recognition
- Employment/work experience
- Significant achievements validated and executed as part of any approved academic or vocational course using the information from the Summary Sheet.

### **Evaluation**

#### Career Awareness

- The Career Awareness activity will be reflected as a part of a classroom nine weeks grade in the tenth grade English class. This will be validated by the English teachers, assessed by a rubric, and placed in the student's Culminating Project Portfolio along with the Interest Inventory and research paper.

#### Student Profile

- This will be validated by the guidance counselors and placed in the Culminating Project Portfolio. The profile will be updated throughout the high school years.

Successful completion of the tenth grade activities will be documented by placing student work in the Culminating Project Portfolio.

**Students who do not complete the tenth grade project activities will receive an incomplete for the tenth grade English class. The incomplete must be rectified by the end of the first semester of the junior year.**

## **DESCRIPTION OF THE ELEVENTH GRADE GRADUATION PROJECT COMPONENT**

### **Purpose:**

- To encourage students to continue to explore various post high school opportunities and to refine and add to the personal Student Profile.

**Competencies:** Students will have an opportunity to develop skills in the following:

- Written Communication
- Oral Proficiency
- Technology Literacy
- Research Skills
- Career Awareness

**Activities:**

- The English teachers and guidance counselors will facilitate these activities as part of the eleventh grade English course of study.
- 

**Career Awareness**

- Development of a packet of career resources
- Written summarization of interview, work site visit, or college visit
- Career Research utilizing career exploration software
  - The students will use career exploration software to generate a list of possible post-secondary options.
  - The students will conduct an in-depth search on an option of his/her choice.
- Development of an oral presentation relating to research.

**Student Profile**

- Under the direction of the guidance counselors and the English teachers, the students will retrieve and update the Student Profile they prepared in tenth grade.

**Evaluation:**

## Career Awareness

- The eleventh grade packet of career resources and written summaries of research will be validated by the eleventh grade English teachers. The completion of the oral presentation will be evaluated by a rubric, which will be placed in the student's Culminating Project Portfolio
- The completion of the post high school planning search will be validated by the guidance counselors.

**Student Profile**

- The student profile will be validated by the counselors and English teachers. The profile will be placed in the student's cumulative file. It will be updated as needed prior to graduation.

Successful completion of the eleventh grade activities will be documented by placing student work in the Culminating Project Portfolio.

**Students who do not complete the eleventh grade project activities will receive an incomplete for the eleventh grade English class. The incomplete must be rectified by the end of the first semester of the senior year**

## **DESCRIPTION OF THE TWELFTH GRADE GRADUATION PROJECT COMPONENT**

**Purpose:**

- To assure that students have evaluated and communicated their growth and self-discovery as represented by all previous components of the culminating project.
- To provide students with the opportunity to convert the information in the personal Student Profile in a Personal Resume.

**Competencies:** Students will have an opportunity to develop skills in the following:

- Written Communication – Creation of a reflective paper
- Technology Literacy
- Career Awareness

**Activities:**

## Reflective Paper

- The twelfth grade English teachers will facilitate the completion of a reflective paper during the first semester. Class time will be allotted for students to revisit the graduation project components which were completed in the 10<sup>th</sup> and 11<sup>th</sup> grades.

The reflective paper (2-5 pages word-processed) will be based on the following prompt:

*Based on the content of your Culminating Project Portfolio, demonstrate how you have developed and grown as an individual and as a student in the Indiana Area School District.*

The response could include:

Growth – How have you developed with regard to potential professional goals and awareness of personal priorities?

Content – How are the competencies demonstrated in your work?

Active Control – How will these experiences serve you in the future?

## Personal Resume

- The students will update the information in their personal Student Profile and create a Personal Resume consisting of the following components:

Career Objective  
Educational Status

Community Activities  
Volunteer Work/Service

Extracurricular Activities or Organizations  
Employment/Work Experience

Awards and Recognition  
References

### **Evaluation:**

Reflective Paper

- The reflective paper will be assessed by the twelfth grade English teacher based on a rubric, which will be placed in the Culminating Project Portfolio as exit documentation.

Personal Resume

- The Personal Resume will be validated by the guidance counselors and English teachers and will be placed in the Culminating Project Portfolio.

**Failure to complete the Culminating Project will result in the student not meeting the graduation requirements of the Indiana Area School District. Students may also be restricted from end-of-the-year senior activities/trips if the culminating project is not completed.**

## GRADES 9 - 12

### **ACADEMIC PATHWAYS:**

Indiana Area Senior High School operates on a ten period academic day. All students must schedule a minimum of thirty-five periods per week each semester unless administrative approval is received to schedule fewer periods. The periods that the student has remaining after he or she has developed a schedule will automatically become periods devoted to supervised study hall, learning support, and other academic activities. We encourage students to be involved in the elective programs, but discretion should be used in course selections based on the amount of time needed for study. Optimized or full-day class schedules are possible, but such schedules are sometimes difficult to develop due to course availability and other types of scheduling conflicts. Students are encouraged to plan a program of study that they believe will meet their educational needs, and at the same time, one at which their parents, teachers and counselors feel students can be successful

### **ELECTIVE COURSES:**

Students can choose from the provided list of electives in order to complete their program of studies. The courses are listed as full year, first semester or second semester courses. Credit information for each course is indicated also in each course description. All electives are five periods per week unless indicated otherwise. Periods per week, semester offered (if applicable), and course number information are listed on the student's program sheet as well as in this booklet. Parents are requested to help their children make a firm commitment before selecting elective courses. A large number of electives are offered to enable all students to schedule additional courses based on their abilities and interests. Students are encouraged to discuss course selections with teachers and counselors.

### **SPECIAL PROGRAMS:**

In addition to required and elective courses, special programs are offered to students, including areas of Special Education and Adaptive Physical Education. Parents of students involved in these programs should consult with school personnel in planning appropriate academic work.

### **GRADE VALUES:**

Quality points are assigned the following values: A=4, B=3, C=2, D=1. However, a weighted grade system has been devised to compensate for the increased rigor and workload of advanced placement and honors level courses. Quality point values for honors level courses are: A=4.25, B=3.25, C=2.25, D=1.25. AP courses are assigned the following quality point values: A=5, B=4, C=3, D=2. **Please note: these increased grades will not appear on the report card; the additional value will be factored into the cumulative grade point average.** The following courses carry a weighted grade value:

Advanced Placement English Literature and Composition	Grade 12
Advanced Placement English Language and Composition	Grade 11
Advanced Placement U.S. History	Grades 10, 11 & 12
Advanced Placement European History	Grades 11 & 12
Advanced Placement U.S. Government and Politics	Grade 12
Advanced Placement Macroeconomics	Grade 12
Advanced Placement Calculus I	Grades 11 & 12
Advanced Placement Calculus II	Grades 11 & 12
Advanced Placement Statistics	Grades 10, 11 & 12
Advanced Placement Computer Science	Grades 10, 11 & 12
Advanced Placement Chemistry	Grades 11 & 12
Advanced Placement Biology	Grades 11 & 12
Advanced Placement Physics I	Grades 11 & 12
Advanced Placement Physics II	Grades 11 & 12
Advanced Placement Spanish	Grade 12
Multivariable Calculus III	Grade 12

The Honors English 9, 10, 10-APUSH, Honors Pre-Calculus and Honors Chemistry courses are also weighted.



## **SCHEDULE CHANGES:**

**All requests for schedule changes must be completed by June 12, 2019.** Questions regarding scheduling should be directed to the School Counseling Office at (724) 463-3531. Schedule change requests based on **extenuating** circumstances after June 12, 2019 will need to have school administrator approval.

### **ACADEMIC SUPPORT**

- 911 ACADEMIC SUPPORT ENGLISH** (9<sup>th</sup> – 10<sup>th</sup> grades) full year 1.00 credit  
This class is designed to help students develop all skills necessary for effective communication in today's society. The curriculum will be based on activities involving reading of novels and short stories, analysis of literature, written expression, oral expression, listening comprehension, and study skill strategies. Application of these skills will be transferred to "real life" activities to encourage the growth of all students into independent, productive adults.  
**\*Special approval required.**
- 910 ACADEMIC SUPPORT ENGLISH** (11<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 credit  
This class is designed to help students develop all skills necessary for effective communication in today's society. The curriculum will be based on activities involving reading of novels and short stories, analysis of literature, written expression, oral expression, listening comprehension, and study skill strategies. Application of these skills will be transferred to "real life" activities to encourage the growth of all students into independent, productive adults.  
**\*Special approval required.**
- 912 ACADEMIC SUPPORT MATH** (9<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 credit  
This course is designed for students who have a basic knowledge of math skills but need additional support applying these skills to everyday living situations. Students will learn math skills necessary for the world of work and independent living.  
**\*Special approval required.**
- 913 ACADEMIC SUPPORT READING** (9<sup>th</sup> – 12<sup>th</sup> grades) 1<sup>st</sup> semester .50 credit  
**914 ACADEMIC SUPPORT READING** (9<sup>th</sup> – 12<sup>th</sup> grades) 2<sup>nd</sup> semester .50 credit  
This course is designed to improve and sharpen special needs students' reading skills through individualized instruction. Course content focuses on comprehension strategies, improving reading fluency, and test preparation techniques. Students are exposed to a variety of reading materials in which they practice and apply learned reading strategies including: sequencing events, recalling details, determining cause and effect, finding the main idea, drawing conclusions, making inferences, predicting, and summarizing. Test-taking skills are also emphasized as students prepare for standardized reading assessments. **\*Teacher or counselor recommendation is required.**
- 918 PATHWAYS TO INDEPENDENCE** (11<sup>th</sup> and 12<sup>th</sup> grades) full year 1.00 credit  
Students will develop skills in areas related to post-secondary employment and independent living. Topics covered include career research, job skills, money management, housing, transportation, taxes, insurance, family life, household maintenance, developing and following a budget, self-advocacy and development of recreation and leisure skills within the community. Students will have the opportunity to apply knowledge gained through classroom instruction to real-life experience activities including job shadowing, use of learning lab, obtaining I-D cards, and simulation projects.  
**\*Special approval required.**
- 939 CAREER TRANSITIONS** (11<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 credit  
While participating in the Career Transition course the students will develop skills in the areas related to post-secondary employment and job retention goals. Students will be placed and monitored in a variety of job sites in which they will have the opportunity to develop and apply job skills. While at the job sites, students will be evaluated using individual task analysis which will be developed to direct skill acquisition and will focus on the following areas: identification and explanation of vocational interests based on individual strengths and aptitudes, job acquisition skills, initiative, problem solving, decision skills, reliability, attitude, ability to work with others, compliance of rules, practicing appropriate safety habits, thoroughness of work communication, attendance, and appropriate work appearance. The students who participate in this course will earn grades through work-site evaluations and the completion of individual employability portfolios.

### **BUSINESS, COMPUTER, INFORMATION, TECHNOLOGY (BCIT)**

All courses within the Business Department are elective course offerings.

- 410 COMPUTER APPLICATIONS** (9<sup>th</sup> – 12<sup>th</sup> grades) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
**87410 OL COMPUTER APPLICATIONS**  
This course offers topics in Microsoft Office. Students will become more productive and efficient using Word, Excel, PowerPoint, and Access. Students are taught the proper procedures to create documents, worksheets, databases, and presentations suitable for coursework, professional purposes, and personal use. *This course is required and fulfills the .5 credit needed for the Computer Technology Graduation Requirement.*

- 412 ADVANCED COMPUTER APPLICATIONS** (9<sup>th</sup> – 12<sup>th</sup> grades) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
**87412 OL ADVANCED COMPUTER APPLICATIONS**  
 This one semester course is designed to further students' knowledge of Microsoft Office including Word (section breaks, tables, graphics, mail merge, multicolumn documents), Excel (formulas and functions, data tables, amortization schedules, multiple worksheets, charts and graphics), PowerPoint (custom backgrounds, transitions, hyperlinks, action buttons), and Access (tables, reports and forms). *This course counts toward the elective requirements for graduation.*
- 414 ACCOUNTING I** (10<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 credit  
 Students interested in the business career fields of accounting, business management, business education, human resources management, marketing, and finance, as well as the career fields of safety science, pre-law, fashion merchandising and hospitality management are often required to take accounting courses in college. This course teaches the fundamentals of the accounting cycle for a sole proprietorship and a partnership. Journalizing transactions, posting to general and subsidiary ledgers and financial statement preparation are covered.  
**This course is highly recommended for college-bound students. This course does not count as a Mathematics credit for the purpose of graduation.**
- 415 ACCOUNTING II** (11<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 credit  
 This course builds upon the concepts in Accounting I to include departmentalized accounting procedures and payroll, accounting control systems, and corporation accounting. QuickBooks Pro will be utilized to teach students computerized accounting procedures. This course is for students who want to major in accounting or a business field in college or who want a business position upon graduation from high school. \*A grade point average of 2.0 or higher in Accounting I, course 414, is recommended to enroll in this course. **This course does not count as a Mathematics credit for the purpose of graduation. . Students taking this course will be eligible to earn WCCC credit through participation in the IASD College in High School Program.**
- 417 INTERNATIONAL BUSINESS** (9<sup>th</sup> – 12<sup>th</sup> grades) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
 This course is designed to provide students with specific information in the following areas of business and the global business environment: cultural influences, business structures, entrepreneurship, marketing, advertising, management, production, business planning and human resources. Individual and group projects, independent research, speakers from the community, and performance assessments are used to involve the students in the learning of business-related concepts.
- 419 MARKETING** (9<sup>th</sup> – 12<sup>th</sup> grades) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
 This course is designed to provide students with specific information regarding marketing. Students will examine the role of marketing in our society and within business. Students will study those activities necessary to the design, pricing, promotion, and distribution of goods and services for use by businesses and consumers. In addition to studying the four P's of marketing (product, price, promotion, and place), students will also develop a marketing plan and explore careers in marketing. This course will focus on marketing in the Sports and Entertainment industries. Student projects (individual and team), case studies, and real-life simulations will be used to assess students.
- 431 PERSONAL FINANCE** (9<sup>th</sup> – 12<sup>th</sup> grades) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
 Students will study personal finance topics including employment documents and interviewing, payroll/taxes, money management, stocks, mutual funds, savings accounts, credit, insurance, automobiles, and consumer rights. Strategies for effective study will also be covered throughout the course.
- 434 BUSINESS LAW** (9<sup>th</sup> – 12<sup>th</sup> grades) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
 This course informs students of the legal system and how it relates to business and personal use. In addition to intentional torts (i.e., assault and battery, trespass, nuisance, defamation, invasion of privacy), negligence and strict liability, students will cover topics relating to the dual court system, trial procedures, and contract formation. Finally, students will learn the legal implications of forming a sole proprietorship, partnership or corporation. Presentations by local business people and attorneys will be incorporated into the course.
- 436 PERSONAL AND CONSUMER LAW** (9<sup>th</sup> – 12<sup>th</sup> grades) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
 This course is designed to present general knowledge of personal legal issues. In addition to consumer protection laws, topics covered in this class include legal aspects of borrowing money, buying on credit, buying a car or house, renting an apartment, purchasing insurance and getting the most out of warranty transactions. Upon completion of this course, students will be aware of their legal rights as they relate to consumer affairs. Presentations given by local car dealers, insurance agents, real estate agents, and lawyers are incorporated into the curriculum.
- 438 WEB DESIGN** (9<sup>th</sup> – 12<sup>th</sup> grades) 1<sup>st</sup> semester .50 credit  
 This one-semester course is designed for the student who has completed Advanced Computer Applications, course 412. Students will complete WEB activities, create HOME pages using authorware, develop multimedia projects, use the

Internet to produce teacher directed research assignments and communicate with students, teachers and web site hosts via electronic media.

- 440 ADVANCED WEB DESIGN** (10<sup>th</sup> - 12<sup>th</sup> grades) 1 semester .50 credit  
This is a one-semester course designed for the student who has completed Web Design, course 438. Students will complete complex web activities, create websites with more advanced level applications using Dreamweaver CS4, develop advanced multimedia projects using Microsoft Office 2010, use the Internet to produce student initiated research assignments and communicate with students, teachers and web site hosts via electronic media. Students will also learn how to understand and incorporate AP elements, design a page layout with forms, enhance web sites with animation and behaviors, and include various types of media objects. Students will also learn about various types of computer hardware, operating systems and networks.
- 442 DESKTOP PUBLISHING** (10<sup>th</sup> – 12<sup>th</sup> grades) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
Students will learn to create and edit documents with desktop publishing software including Microsoft Publisher and Adobe InDesign. Types of documents created in desktop publishing include banners, brochures, business cards, calendars, cards/invitations, flyers, labels, newsletters and signs.

### **COMMUNICATIONS/DIGITAL MEDIA PRODUCTION**

All courses within the Communications Department are elective course offerings open to all students. However, Digital Media Production II and Digital Media Production III courses are sequential in nature and require successful completion of previous level course.

- 636 DIGITAL MEDIA PRODUCTION I** (9<sup>th</sup> - 12<sup>th</sup> grades) full year 1.00 credit  
**During the first semester of this course**, students will learn about **Digital Photography** and its proper composition, techniques, and terminology utilized along with its practical applications and uses. Students will shoot photographs utilizing digital photo cameras, archive and manage the photographs on a computer via a digital storage medium, analyze the photographs taken, and perform basic “digital darkroom” photographic manipulation/correction on a computer using software. **During the second semester of this course**, students will learn **Digital Video Production** and its proper composition, techniques, and terminology utilized in Digital Videography and its practical applications and uses. Students will shoot video footage utilizing digital video cameras, capture the video footage into a computer, edit the video and audio on the computer using video editing software and create video productions finalized as a DVD or digital file.
- 637 DIGITAL MEDIA PRODUCTION II** (10<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 credit  
**During the first semester of the course**, DMP II students will further enhance their photographic composition skills by continuing to take photographs needed for the IHS yearbook and other school publications. In addition, DMP II students will have the opportunity to **expand their photographic composition skills by completing various “independent” photo assignments** that allow for **more creativity and individuality** beyond the photos taken for school use. Lastly, DMP II students will **build upon the photo manipulation skills** acquired in DMP I **via Photoshop** in order to re-create digital images from scanned images, from digital cameras, and the Internet. Students will utilize the layers of Photoshop to **create professional images and alter existing photographs** for use **in graphic designs, advertising, and internet content**.  
**During the second semester of the course**, DMP II students will further **enhance their video production skills** from DMP I by **creating a YouTube Channel and creating THREE different videos/posts** that will follow current popular styles of videos on YouTube (ie. Vlogging, Product Reviews, Gaming, Tutorials, Advice, or News)
- 638 DIGITAL MEDIA PRODUCTION III** (11<sup>th</sup> and 12<sup>th</sup> grades) full year 1.00 credit  
**During the first semester of the course**, DMP III students will **further enhance their photographic composition skills** by continuing to take **photographs needed** for the **IHS yearbook** and other **school publications**. In addition, DMP III students will have the **opportunity to expand their photographic composition skills by completing various “independent” photo assignments** that allow for **more creativity and individuality** beyond the photos taken for school use. Lastly, DMP III students will **build upon the photo manipulation skills** acquired via **Photoshop** in DMP I & DMP II in order to utilize the layers of Photoshop to **create professional images and alter existing photographs** for **use in graphic designs, advertising, and internet content**.  
**During the second semester of the course**, students will learn about **webcasting** and the **proper techniques, skills, and terminology** to allow the student to **operate and direct the functional components of a webcast studio and video production facility**. Students will **staff the production facility as on-air talent, production crew, and directors** to produce a **“webcast”**. In addition, students will **continue their exploration of digital video production** in order to **create PSA’s (Public Service Announcements), Commercials and Video Productions for webcast and website hosting**.

## COMPUTER SCIENCE

- 351 ADVANCED PLACEMENT COMPUTER SCIENCE** (10<sup>th</sup> – 12<sup>th</sup> grades) full year/weighted 1.00 credit  
This college-level course follows the Advanced Placement Computer Science curriculum and is designed to prepare a student for the AP Computer Science exam. Content includes: simple, user defined and structured data types, algorithm development, decisions and loops, array, recursion, searches and sorts, data abstraction, and classes. The programming language Java will be used. **\*Students taking this course must have successfully completed Course 447 (Computer Programming and Coding I) OR Course 449 (Explorations in Computer Science) OR have prior approval from the instructor.** All members of this class are expected to take the AP exam given in May at their own expense (approximate \$94.00 fee.) There will be no final examination requirement for this course.
- 447 COMPUTER PROGRAMMING AND CODING I** (9<sup>th</sup> – 12<sup>th</sup> grades) 1 semester .50 credit  
This course is designed as a first course in computer science programming. Students will learn the basics of computer programming and computer science. The material emphasizes computational thinking and helps develop the ability to solve problems. This course covers the basic building blocks of programming along with other central elements of computer science. The concepts covered in the course include: program design and coding, number calculations and data, decision making, repetition and loops, and graphics. The primary language for the course is Python. It gives a foundation in the tools used in computer science and prepares students for further study in computer science, including the Computer Programming and Coding II and AP Computer Science course. Students taking this course must have completed Algebra II or be taking the course concurrently.
- 448 COMPUTER PROGRAMMING AND CODING II** (9<sup>th</sup> – 12<sup>th</sup> grades) 1 semester .50 credit  
This course is a continuation of Computer Programming and Coding I. Students must have completed the Computer Programming and Coding I course. Students will continue to learn the basics of computer programming along with the basics of computer science. The material emphasizes more advanced computational thinking and helps develop the ability to solve problems. This course continues to cover the building blocks of programming along with other central elements of computer science. The concepts covered in the course include: "for" loops, text and string processing, functions, arrays, 2D arrays, and web development. The primary language for the course is Python. The course prepares students for further study in computer science, including the AP Computer Science course.
- 449 EXPLORATIONS IN COMPUTER SCIENCE** (9<sup>th</sup> – 12<sup>th</sup> grades) 1 semester .50 credit  
This course is a first course in computer science and introduces students to computer science and the correct ways to design and write computer programs using Visual Basic. The goal is to provide an introductory-level course in computer programming for students with no previous programming experience. The concepts covered in the course include: an introduction to computer science and computer programming, program and graphical user interface design, program design and coding, variables and arithmetic operations, decision structures, and loop structures. It gives a foundation in the tools used in computer science and prepares students for further study in computer science, including the Computer Programming and Coding I and II courses and the AP Computer Science course. Students taking this course must have completed Algebra I.

## ENGLISH

### **GROUPING OF STUDENTS (Grade 9, 10, 11 and 12)**

English is taught on three levels of ability, each of which fosters discovery, development, refinement and synthesis of language skills. Student are scheduled for a particular level by their previous English instructor. The three levels are:

<u>Gr9</u> <b>091</b>	<u>Gr 10</u> <b>002</b>	<u>Gr 11</u> <b>010</b>	<u>Gr 12</u> <b>014</b>	
				<b>ACADEMIC TRANSITION:</b> This level concentrates on skill development and skill application. The class is designed to help students work toward grade level performance by developing the skills necessary for effective communication. The curriculum is based on academic standards which incorporate activities involving reading, written expression, oral expression, listening comprehension, and study skill strategies. Application of these skills involves "real life" activities to encourage the student to become an independent and productive adult. The class is taught at a pace best suited to the needs and abilities of the student.
<b>092</b> <b>87092</b>	<b>003</b> <b>87003</b>	<b>011</b> <b>87011</b>	<b>015</b> <b>87015</b>	<b>ACADEMIC:</b> This level concentrates on mastery of skill development, skill refinement with skill synthesis. The class is designed for the student who has on or above grade level reading and writing skills, is capable of being an independent learner, enjoys self-guided learning activities and class discussion. The material is taught with greater depth and at a faster pace than Academic Transitions English classes.
<b>093H</b>				<b>HONORS ENGLISH 9.</b> This level is designed for the highly motivated student who has a strong command of the English language and has above grade level reading and writing skills. This class concentrates on skill synthesis in relation to

writing using various modes of development and in relation to analyzing different genres of literature. Students who enroll in Honors English should full embrace the challenge that accompanies the rigor of the class. Teacher recommendation is required for this level, and 8<sup>th</sup> grade Accelerated English is highly recommended as a prior course.

006

**HONORS ENGLISH 10.** This course is a survey course of American Literature. Starting in 1620, the course will cover literature from Realism, Romanticism, the Roaring Twenties and Jazz Age, and Depression Era, and as well as the Harlem Renaissance. Literature will include short fiction, fiction, poetry, nonfiction, and drama and will cover literary terms including, but not limited to, the archetype, the allegory, irony, theme, symbol, and satire. Writing assignments will focus on the research paper, literary analysis, the narrative, expository, argument, and comparative analysis. There will be an emphasis on increasing an academic vocabulary. Additionally, students will have the opportunity to hone their public speaking skills. **Prerequisite: Successful completion of Honors 9.**

007

**HONORS ENGLISH 10 – APUSH:** This course is a survey course of American Literature with a focus on the history of the United States. Starting in 1620, the course will cover literature of the Puritan, Realism, Romantic, Civil War, Industrial, Roaring Twenties, the Depression era, and end in the Cold War time periods. Literature will include short fiction, fiction, poetry, nonfiction, and drama and will cover literary terms including, but not limited to, the archetype, the allegory, irony, theme, symbol, and satire. Writing assignments will focus on the research paper, literary analysis, the narrative, expository, argument, and comparative analysis. There will be an emphasis on increasing an academic vocabulary. Additionally, students will have the opportunity to hone their public speaking skills. Students must be enrolled in the AP United States History course in order to be enrolled in this course.

**ENGLISH 9  
OL ENGLISH 9**

full year

1.00 credit

English 9 is a survey course. Its objective is to improve the students' skills in grammar, English usage, mechanics, sentence structure, composition, spelling and vocabulary, and to improve students' appreciation of literature, including the short story, novels, nonfiction and drama. A grammar review is conducted with new grammar presentation on materials through the verbal. Multi-paragraph theme writing is stressed after the development of the single paragraph. The main drama presentation for the year is Romeo and Juliet. Videotapes are used to supplement and augment classroom selections. A structured program in vocabulary growth is conducted weekly throughout the course.

**ENGLISH 10  
OL ENGLISH 10**

full year

1.00 credit

Students in tenth grade English will explore Colonial to Contemporary American Literature, including several classic American novels. In addition to studying the works of American authors, students will recognize how the philosophy of each time period, such as Puritanism, Rationalism, Romanticism, and Realism is reflected in the stories, poems, essays, plays or novels. This course also focuses on developing writing skills with particular emphasis on the substantiation of a thesis statement and the recognition and demonstration of the various forms of compositions. The necessity for the clear communication of oral ideas will also be stressed. Another major component of the course involves developing the skills required to write an informative paper, a research project that promotes analytical thinking, independent learning and perceptive reasoning.

**The final grade for English 10 will be withheld pending satisfactory completion of the Culminating Project.**

**ENGLISH 11  
OL ENGLISH 11**

full year

1.00 credit

This full year course will focus on ancient through modern World Literature with selections from Europe, Asia, Africa and the Americas. Students will write and speak about how their reading relates to literary elements, world cultures, and their own personal views. Additionally, students will complete a unit dealing with the selection of career training options. Students will be encouraged to work independently and in small groups, thus developing personal life-long learning practices.

**The final grade for English 11 will be withheld pending satisfactory completion of the Culminating Project.**

**ENGLISH 12  
OL ENGLISH 12**

full year

1.00 credit

This full year survey course will focus on the literature of Britain. Units are approached chronologically and students are encouraged to write in various modes using the literature as springboard. Additionally, students will exercise research skills and make connections with career options. Students will have opportunities to self-select materials for independent work and/or small group projects. This course is only available at the transition and accelerated learning levels.

- 017 ADV. PLACEMENT ENGLISH LITERATURE AND COMPOSITION** (12<sup>th</sup> gr.) full yr. /weighted 1.00 credit  
The focus of this course is expository writing about literature. Classes are traditionally small, seminar groups. Students read texts from a variety of genres, eras, and cultures. Grades are based primarily on essays, which are either timed in-class writing or lengthier outside papers which serve as culminating activities. Students who elect this course should enjoy reading. Accelerated courses in tenth and eleventh grades are strongly recommended. All members of the class are expected to take the AP exam given in May at their own expense (approximate \$93.00 fee). There will be no final examination requirement for this course. Due to the nature of the course and the exam, any student who does not maintain a minimum of 3.0 course average or better may be asked to choose an alternate class. This course includes a mandatory summer reading assignment. \***Special approval required/recommendation of 11<sup>th</sup> grade English teacher.**
- 018 ENGLISH AS A SECOND LANGUAGE** (9<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 credit  
The English as a Second Language curriculum addresses the individual needs of English Language Learners as they make progress through levels of proficiency in English. The curriculum is individualized according to needs of each student. Acquisition of a second language is a long-term process, and the student’s progress is influenced by age, rate of acquisition, prior education background, fluency in the native language, and personal motivation. The course goal for each English Language Learner is to demonstrate measurable progress on approved Pennsylvania Department of Education and district assessments. \***Special approval required.**
- 019 ADVANCED PLACEMENT ENGLISH LANGUAGE AND COMPOSITION** (11<sup>th</sup> grade) full year 1.00 credit  
The focus of this course is to engage students in becoming skilled readers of prose written in a variety of periods, disciplines, and rhetorical contexts. Students will also engage in becoming skilled writers who compose for a variety of purposes. The course focuses predominantly on non-fiction reading and writing and the examination/analysis of a writer’s use of rhetorical devices and strategies to achieve a particular purpose. Classes are traditionally small, seminar groups. Grades are based primarily on essays, which are either timed in-class writings, or lengthier outside papers which serve as culminating activities. The Accelerated English course in tenth grade is strongly recommended as a prerequisite for the class. All members of the class are expected to take the AP exam, given in May, at their own expense (approximate \$93.00 fee.) There will be no final examination requirement for this course. Due to the nature of the course and the exam, any student who does not maintain a minimum of 3.0 course average or better may be asked to choose an alternate class. This course includes a mandatory summer reading assignment. \***Special approval required/recommendation of 10<sup>th</sup> grade English teacher.**
- 022 CREATIVE WRITING** (12<sup>th</sup> grade) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
The Creative Writing course is a multi-genre introduction to the craft of creative writing. In the context of a variety of genres, students will examine literary conventions as well as the writing techniques and tools essential to effective writing and editing. Writings will follow the creative process from drafting to publishing. Writing genres include essays, short stories, poems, and plays. Curriculum and instruction are aligned to the PA state core curriculum content standards. **Students taking this course will be eligible to earn WCCC credit through participation in the IASD College in High School Program.**
- 027 SCIENCE FICTION** (12<sup>th</sup> grade) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
This course will focus on the constantly evolving genre of Science Fiction. During this semester course, students will explore various works of Science Fiction through a thematic lens, including apocalypse, aliens, robots, mad scientists, genetic engineering, space exploration, time travel, utopias and dystopias, etc. They will also read selected works that demonstrate how the genre has changed across time, from the Industrial Revolution and Scientific Revolution to the present. Students will compare current scientific developments to Science Fiction stories written by Isaac Asimov, H.G. Wells, Mary Shelley, Cormac McCarthy, Stephen King, Philip K. Dick, Ursula K. LeGuin, and others will be highlighted. Possible stories include *The Road*, *War of the Worlds*, *Ender’s Game*, *The Island of Dr. Moreau*, and *Frankenstein*.
- 028 SHORT FICTION** (12<sup>th</sup> grade) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
“Cultural Archetypes in American short fiction” An exploration of cultural archetypes through the characters in some classic and contemporary American short fictional works. Students will read and analyze works of short fiction. Writing components will include literary analysis, persuasive writing, compare/contract, and creative writing.
- 030 FANTASY LITERATURE** (12<sup>th</sup> grade) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
Fantasy Literature is a semester-long course that surveys the oldest and most popular branch of speculative fiction. Through this course, students will define the genre, explain the role/purpose of fantasy for both child and adult audiences, explain how fantasy evolved across time, read a sampling of notable works ranging from ancient to modern, and will practice composing their own works of fantasy in a variety of mediums. Students will trace the development of Fantasy beginning with ancient mythology, moving through medieval fantasy, fairy tales, and finally works of modern fantasy. Titles include *The Adventures of Alice in Wonderland*, *The Lord of the Rings*, *The Chronicles of Narnia: The Lion, the*

*Witch, and the Wardrobe, The Wonderful Wizard of Oz, The Princess Bride, The Hobbit, and A Song of Ice and Fire: A Game of Thrones.* Also included will be Arthurian legends, medieval ballads, fairy tales, and ancient myths.

**037 COMMUNICATING IN A STEM WORLD (Science, Technology, Engineering, and Mathematics)** (12<sup>th</sup> gr) .50 credit  
This is a one semester, portfolio building class which will emphasize critical reading and writing skills for Seniors intending to pursue STEM-related majors (Science, Technology, Engineering, and Mathematics) in college and/or those pursuing STEM-vocational careers. The course will begin with an essentials of grammar unit, and then students will begin building their own unique portfolios based on their post secondary interest. Major units of study include personalized career development writing, practical correspondence, writing manuals and directions, and writing research reports and/or project proposals. The course concludes with a capstone project based on a student identified area of interest. Other assessments will include, but will not be limited to, research papers, technical articles and scientific and mathematical-based expository, narrative and persuasive pieces. **(This course does not meet NCAA eligibility guidelines for meeting core credit requirements.)**

**402 SUPPLEMENTAL INSTRUCTION LITERATURE/PBA** (11<sup>th</sup>-12<sup>th</sup> grade) .50 credit  
"Pass" grade with a score of proficient on Keystone Exams  
This course is designed in response to the supplemental course offering requirement of 22 PA Code Chapter 4 for students who do not demonstrate proficiency on the Keystone assessments for Literature. Supplemental instruction must be consistent with the currently approved content courses which are aligned to PA Core Standards and/or PA Academic Standards and are designed to assist the student in achieving proficiency on retest opportunities of the state assessments. Students who participate in supplemental instruction may retake the assessment in December and/or May. December assessment results are typically provided in March and May results are typically provided by mid-summer. A student will not receive .5 credit (Pass) until they have successfully demonstrated proficiency on the exam and/or available Project Based Assessment.

### **ELECTIVE ENGLISH COURSES**

**031 PUBLIC SPEAKING** (9<sup>th</sup> – 12<sup>th</sup> grades) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
This course offers the students instruction and experiences in a variety of speaking situations. Included in the course is instruction in basic public speaking – informative, persuasive, demonstration, entertaining and simulative speeches, rhetoric and debate, and oral interpretation of literature. In addition to these forms, the student will have opportunities to deal with media speech and have experience with camera and microphone communications. Examinations of famous historical addresses and current rhetorical devices will also be made. This is a performance-based course and much emphasis will be placed on the mechanics of speech – volume, articulation, rate, pitch, projection and the improvement and perfection of these elements in oral communication. This class is recommended to those interested in the Television Production courses.

**033 DRAMA I** (9<sup>th</sup> – 12<sup>th</sup> grades) 1<sup>st</sup> semester .50 credit  
Drama I explores the fundamentals of acting, stagecraft, stage safety and script analysis. It is not an ACTING class but rather a performance art class. Units of study include aspects of acting techniques, technical theatre terminology, storytelling and improvisation, vocal production (including projection and articulation), theatre history (Greeks – Middle Ages), monologue study and a final performance using contemporary material. Opportunities for practical hands-on experience include scenic design, set decoration, stage make up and costume design. It is primarily a participatory performance oriented class and it is not a prerequisite to Drama II.

**034 DRAMA II** (9<sup>th</sup> – 12<sup>th</sup> grades) 2<sup>nd</sup> semester .50 credit  
Drama I is not a prerequisite to Drama II. The same stage safety skills, performance and technical skills and techniques taught in Drama I are addressed and expanded upon in Drama II. Script analysis, dramatic structure and theater history will continue to be studied from Shakespeare to Ibsen with an additional unit on American musical theatre history. Instruction and experience in directing technique is an emphasis and students will have the opportunity to create a director's notebook and direct a representative scene using other students in the class. The laboratory nature of Drama I is again stressed in this class which is primarily performance oriented.

**035 JOURNALISM [NEWSPAPER]** (9<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 credit  
This course is primarily a workshop course in which students produce a monthly issue of the school newspaper. Students will be involved in the writing, editing, layout and photography of the monthly publication. Microsoft Publisher is taught and utilized for the layout and design of the paper. Keyboarding knowledge and computer experience is helpful. Students are expected to work in an independent, responsible manner. Second and third year staff members serve as editors of the newspaper.

**036 JOURNALISM [YEARBOOK]** (9<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 credit  
This course is primarily a workshop course in which students actually produce a yearbook for the school. All phases of production are experienced: finance (including budget), promotion and sales, lay out design, photographic principles, copy writing, and dummy productions. In addition, students gain an understanding of the engraving and printing process and develop attitudes of self-discipline. They learn the necessity for individual responsibility in team effort. Because it is a

computer designed yearbook, desktop publishing programs are used. It is strongly suggested that students also enroll in course 442, Microsoft Publisher/Adobe InDesign. Membership will be contingent upon the number of available openings.  
**\*Special approval required.**

### **FAMILY AND CONSUMER SCIENCES**

**504 ON YOUR OWN** (9<sup>th</sup> – 12<sup>th</sup> grades) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
**87504 OL ON YOUR OWN**

This comprehensive Family and Consumer Science class provides basic life skills every individual will use in his/her lifetime. In the area of financial and resource management, students will expand their knowledge of budgeting, types of financial institutions, credit and consumer responsibilities and choices. The concept of balancing personal, family and community responsibilities will be interwoven with decision-making and information on housing, foods and wellness. Students will also explore the developmental stages of child development along with practices appropriate for each stage. *This course will fulfill the Family and Consumer Science Graduation Requirement.*

**507 CHEF'S CORNER** (9<sup>th</sup> – 12<sup>th</sup> grades) 2<sup>nd</sup> semester .50 credit

Love cooking and trying new foods? Think wielding a chef's knife is an art form? What to be the next *IHS Chopped Champion*? Chef's Corner is a course designed to provide the knowledge of the basic culinary skills and an appreciation for the art of cooking. In this class you will learn an appreciation food preparation techniques, develop basic cutting skills, experiment with cooking methods, and understand the means to bring out the best flavors and nutrients in food. We'll run the gamut of lab experiences from fruits and vegetables to meats and poultry, building the skills and confidence in cooking to last a lifetime. Prepare to enjoy food in a myriad of new ways

**514 CHILD DEVELOPMENT AND PRESCHOOL** (10<sup>th</sup> – 12<sup>th</sup> grades) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit

ALL students, male and female, will find this course informative, invaluable and fun. The course begins by focusing on the physical, social/emotional and intellectual development of children. Students will discover how children learn, what behavior to expect at various ages and how to communicate and work with children. Then to enhance the child development class experience, students will participate in the IHS PRESCHOOL program, located at the senior high, by observing, planning and preparing activities for the preschoolers and working/playing with the preschoolers enrolled in the program. In addition, students will explore aspects of financial and resource management. Students whose career paths will involve working with young children may elect this course for credit more than once only if class size permits. *This course will fulfill the Family and Consumer Science Graduation Requirement.*

**517 A'LA CARTE BAKING** (9<sup>th</sup> – 12<sup>th</sup> grades) 1<sup>st</sup> semester .50 credit

Breads, pastries and cookies speak to the creative "you"? Think you have what it takes to be a winner in the *IHS Cupcakes Wars*? This course is designed to provide the knowledge and skills needed to successfully prepare baked products as well as to develop an appreciation for the art and science of baking. Beginning with an understanding of baking terminology and equipment, students will move through the functions of baking ingredients, mixing methods, presentations, and identifying quality baked products. With nearly daily lab activities students will experience various baking techniques to prepare their choices of a variety of quick breads, yeast breads, pastries, dozens of cookies and delicious cakes. *A'La Carte Baking* will increase your expertise and confidence in baking and provide a tasty outlet for your creativity.

### **FINE ARTS**

**680 FINE ARTS 9** (9<sup>th</sup> grade) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit

This semester course will offer 9<sup>th</sup> graders an opportunity to experiment in a variety of mediums and techniques. It will cover the following 2-dimensional areas: drawing from observation, portrait drawing, pen & ink, and acrylic painting. Students will be encouraged to learn to work independently and creatively while exploring this area of art.

**682 3 DIMENSIONAL ART 9** (9<sup>th</sup> grade) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit

The students will have the opportunity to work with a variety of 3-dimensional materials during this semester course. They will work with hand building and glazing techniques in clay. The fundamentals of jewelry making will be explored to create rings, pins, pendants, key chains, earrings or bracelets using three different metals. The students will also explore the areas of sculpture, mosaic and fabric design including batik and coil basketry methods. They will be encouraged to express their creativity in these areas and expand their knowledge in the arts.

**724 ART I** (10<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 credit

This is a full year course made up of one semester of 2-dimensional art and one semester of 3-dimensional art. It is designed to introduce the student to basic art and 3-dimensional processes, and may be elected at the 10<sup>th</sup>, 11<sup>th</sup> and 12<sup>th</sup> grade level. Fundamentals in design will lead into exploration of drawing, painting, printmaking, clay, and metals. Art appreciation will be blended into this studio course, which is recommended for general enrichment or for the student who may decide on an art related career.



- 725 VISUAL ARTS/2 DIMENSIONAL** (11<sup>th</sup> – 12<sup>th</sup> grades) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
**726** This course is a continuation and further study of the fine art skills, drawing and painting, and knowledge obtained in Art I. It is a course that can be selected each semester for additional credit and experience. Students are encouraged to discover through experimentation and build on the foundation taught in Art I. Creative and critical thinking skills, problem solving and the realization that there are multiple solutions that exist for a single problem are a part of the daily expectations of the class. Course work consists of specific assignments, sketchbook assignments and problems originating from the student's individual interests. **\*Students are required to have a 2.5 minimum grade point average in Art I, course 724, in order to enroll in this course and must maintain this average in order to continue to be enrolled in advanced level art course offerings.**
- 727 VISUAL ARTS/3 DIMENSIONAL** (11<sup>th</sup>–12<sup>th</sup> grades) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
**728** This program is designed to further develop the skills and techniques of the returning student. Students will be encouraged to express themselves creatively in clay, metal, fiber, glass, and other related materials. Emphasis will not only be on creative design, but on the quality of craftsmanship through a correct understanding of materials and techniques. **\*Students are required to have a 2.5 minimum grade point average in Art I, course 724, in order to enroll in this course and must maintain this average in order to continue to be enrolled in advanced level art course offerings.**
- 729 VISUAL ARTS/CONTEMPORARY POTTERY** (11<sup>th</sup> – 12<sup>th</sup> grades) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
**739** This course is designed to further develop ceramic skills and techniques of the 3-Dimensional Design student by implementing the use of the pottery wheel. Emphasis will not only be on the skill, but also on the techniques necessary to create refined and functional pieces of art. It is a course that can be selected each semester for additional credit and experience. **Prerequisite: A minimum GPA of 2.0 in Art I to enroll in this class.**

### HEALTH/PHYSICAL EDUCATION

- 836 HPE 9** (9<sup>th</sup> grade) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
**Physical Education** – This component includes organized team, individual and recreational activities. It will promote physical fitness, skill development, social interaction, and appreciation of physical fitness.  
**Health** – This component is designed to develop an awareness of healthy active living through a combination of physical activity and appropriate lifestyle choices. Students will acquire the knowledge about a wide variety of health-related topics and develop relevant skills to apply their learning to make positive healthy decisions. By studying growth and development, injury prevention and safety, mental and emotional health, family living, nutrition, alcohol, tobacco and other drugs, communicable and chronic diseases and injury, consumer and community health, and environmental health, students will become aware of how their actions and decisions affect their health, fitness, and personal well-being.

- 839 HPE 9 FITNESS-BASED** (9<sup>th</sup> grade) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
**PE:**  
This component will feature fitness activities such as fitness center, yoga, circuit training, etc. as well as individual sports such as badminton, pickleball, and rock climbing. Sports taught in this unit are sports geared more towards lifetime enjoyment. Students will learn how to use the fitness center properly and how to develop their own personal fitness plan. This course can best be described as a blend of traditional PE along with fitness elements and non-traditional sports. Less emphasis is placed on competitive team based sports (basketball, soccer, football) and more emphasis is placed on personal fitness as well as developing interest in activities that keep you physically active for a lifetime.  
**Health:**  
This component is designed to develop an awareness of healthy active living through a combination of physical activity and appropriate lifestyle choices. Students will acquire the knowledge about a wide variety of health-related topics and develop relevant skills to apply their learning to make positive healthy decisions. By studying growth and development, injury prevention and safety, mental and emotional health, family living, nutrition, alcohol, tobacco and other drugs, communicable and chronic diseases and injury, consumer and community health, and environmental health, students will become aware of how their actions and decisions affect their health, fitness, and personal well-being.

### **87836 OL HPE 9**

This is a 1 semester (2 quarter) class. Each quarter includes an online component as well as a physical activity component. Each quarter requires 10 hours (20 hours for the semester) of documented physical activity in the school fitness center. Activity hours can be documented by a physical education teacher or Mr. Detweiler, the fitness center technician.  
Practice hours for a school sport can no longer be used to fulfill the physical activity.  
Instruction includes both physical and mental health topics, community first aid, food and nutrition, social relations, sex education, alcohol, tobacco and drug abuse. It is intended to teach all students the proper care of the human body.

- 837 HPE 10** (10<sup>th</sup> grade) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
**87837 OL HPE 10**  
 This is a 1 semester (2 quarter) class. Each quarter includes an online component as well as a physical activity component. Each quarter requires 10 hours (20 hours for the semester) of documented physical activity in the school fitness center. Activity hours can be documented by a physical education teacher or Mr. Detweiler, the fitness center technician.  
 Practice hours for a school sport can no longer be used to fulfill the physical activity.  
 Instruction includes both physical and mental health topics, community first aid, food and nutrition, social relations, sex education, alcohol, tobacco and drug abuse. It is intended to teach all students the proper care of the human body.
- 838 HPE 11** (11<sup>th</sup> grade) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
**87838 OL HPE 11**  
 This is a 1 semester (2 quarter) class. Each quarter includes an online component as well as a physical activity component. Each quarter requires 10 hours (20 hours for the semester) of documented physical activity in the school fitness center. Activity hours can be documented by a physical education teacher or Mr. Detweiler, the fitness center technician.  
 Practice hours for a school sport can no longer be used to fulfill the physical activity.  
 Instruction includes both physical and mental health topics, community first aid, food and nutrition, social relations, sex education, alcohol, tobacco and drug abuse. It is intended to teach all students the proper care of the human body.
- 830 PHYSICAL EDUCATION 12** (12<sup>th</sup> grade) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
**87832 OL PHYSICAL EDUCATION 12**  
 This is a 1 semester (2 quarter) class. Each quarter includes an online component as well as a physical activity component. Each quarter requires 10 hours (20 hours for the semester) of documented physical activity in the school fitness center. Activity hours can be documented by a physical education teacher or Mr. Detweiler, the fitness center technician.  
 Practice hours for a school sport can no longer be used to fulfill the physical activity.  
 Instruction includes both physical and mental health topics, community first aid, food and nutrition, social relations, sex education, alcohol, tobacco and drug abuse. It is intended to teach all students the proper care of the human body.
- 829 PERSONAL FITNESS** (12<sup>th</sup> grade) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
 This class will feature fitness activities on the senior high track and in the fitness center. Students will develop their personal fitness plans for the class and will exercise to achieve their fitness goals. This class fulfills .50 graduation credits of the Physical Education requirement for seniors and .50 credits of electives for juniors and seniors. This course is one of three offerings (Personal Fitness, Yoga/Current Events, PE 12th Grade) that satisfies .50 HPE credit requirements for eligible seniors
- 898 YOGA/CURRENT EVENTS HEALTH** (12<sup>th</sup> Grade) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
 In this class, we will utilize yoga practices to become more physically, mentally, energetically, and emotionally fit. This class will present techniques in yoga. Yoga means union, and refers to the union of the body, mind, and breath. It is a system of self-care that was developed in India and is practiced all over the world. Yoga develops core strength and helps to develop lung capacity through careful breathing. The emphasis in this class will be asana practice which refers to poses and postures designed to develop flexibility, muscular strength, and muscular endurance. Emphasis will be placed on correct alignment and safe practice. Yoga students will learn concepts of physical fitness, identify stress reduction techniques, gain an increased ability to concentrate, and develop a Personal Fitness Plan to support a lifetime of fitness. Current events health topics will also be included in this course. Students will learn about current trends in health. Topics will include drug and alcohol abuse, disease prevention and nutritional strategies to live a healthier life. This course is one of three offerings (Personal Fitness, Yoga/Current Events, PE 12th Grade) that satisfies .50 HPE credit requirements for eligible seniors.
- 87839 OL HEALTH CONCEPTS/TERMINOLOGY** (Elective) (11<sup>th</sup> – 12<sup>th</sup> Grade) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
 This online course will help you learn to analyze individual word parts such as prefixes, suffixes and word roots, along with learning body system dynamics, basic medical language, body orientation, health, wellness, and disease terms. Students will also learn the basic components of medical terminology as it relates to each body system. This online course may interest those students planning on pursuing a career in medical transcription, medical billing or medical coding, physician's secretary or medical support staff, or maybe just having interest in jump starting within the medical field before starting college. Prerequisite: Any student wishing to enroll in this course must have either passed Biology or be enrolled in Biology concurrently.

## **MATHEMATICS**

The math department strongly recommends that all students consider taking four years of mathematics in grades 9 through 12. Students who are considered to be grade-level in mathematics will complete Pre-Calculus by the end of their senior year at IHS. Students stand the greatest chance to be successful on the math portion of their college entrance exams if they are minimally on grade-level in mathematics.

For students interested in accelerating themselves in mathematics there are two primary options: A) Students can double up in math by taking Geometry and Algebra 2 during the same school year or B) Students can take Geometry online over the summer after they have completed Algebra 1. Option B does carry a cost to the student. If you are interested in accelerating in math after Algebra 1, you should speak with your Algebra 1 teacher about your plan.

For your convenience the course descriptions for the math classes offered at IHS are grouped based upon the type of course that they are. Please read the descriptions of the types of courses and consult your current math teacher as you make your scheduling plans for next year.

**Accelerated Courses** – Accelerated courses are intended for students considered to be a minimum of one year ahead of grade level in their math courses.

- 335 GEOMETRY** (accelerated) (9<sup>th</sup> grade) full year 1.00 credit  
This course moves at a faster pace than course 337. Students will be exposed to a strong foundation in Geometry aligned with the Common Core Standards. Topics include measurement, reasoning and proof, angle relationships, similarity and congruence, area and volume, an introduction to right triangle trigonometry, and properties of circles.
- 354 ALGEBRA II** (accelerated) (9<sup>th</sup> – 10<sup>th</sup> grades) full year 1.00 credit  
This course moves at a faster pace than course 353. Students will be exposed to a strong foundation in Algebra II aligned with the Common Core Standards. Topics include functions, systems of equations, quadratic functions, polynomials, radicals and rational exponents, exponential and logarithmic functions, rational functions, sequences and series, and probability and statistics. Some coursework will require the use of a TI-83 graphing calculator.
- 359 HONORS PRE-CALCULUS** (9<sup>th</sup> – 11<sup>th</sup> grades) full year 1.00 credit  
This course moves at a faster pace than course 355. Students will be exposed to a strong foundation in Precalculus aligned with the Common Core Standards. Topics to be studied include functions and graphs, polynomial, power and rational functions, exponential, logistic and logarithmic functions, an extensive study of trigonometry, and discrete mathematics. **Students taking this course will be eligible to earn either WCCC or Mt. Aloysius credit through participation in the IASD College in High School Program.**
- 348 PRE-ALGEBRA** (9<sup>th</sup> – 11<sup>th</sup>) full year 1.00 credit  
**87348 OL PRE-ALGEBRA**  
Pre-Algebra provides a solid foundation in order to fully prepare students for Algebra I. Chapters 1-3 focus on integers, rational numbers and real numbers in order to set the stage for equations, inequalities and functions. Real-World applications to the more abstract algebraic concepts are found throughout the text. Students will use calculators, software, websites and manipulatives to apply concepts and solve problems. Students who successfully complete the course will enter Algebra I.
- 350 ALGEBRA I** (9<sup>th</sup> grade) full year 2 periods 1.00 credit  
**87350 OL ALGEBRA I**  
Students will be exposed to a strong foundation in Algebra I which is intended to prepare them to take the Pennsylvania Algebra I Keystone Exam. Topics include solving linear equations and inequalities, introduction to functions, linear functions, systems of linear equations and inequalities, data analysis and probability, and exponents. Selected material covered in this course will require the use of a TI-83 graphing calculator.
- 357 ALGEBRA I BLOCK** (10<sup>th</sup> – 12<sup>th</sup> grades) full year (2 periods) 1.00 credit  
The Algebra I Block covers similar content to the standard 2 periods Algebra I course. Algebra I Block is a course which will meet daily for two consecutive periods. It is designed specifically for students in 10<sup>th</sup>-12<sup>th</sup> grade who are taking Algebra I. With the additional class time students will have the ability to learn material at a more comfortable pace and have additional contact time with the teacher to get more immediate feedback while they are working independently on problems relating to concepts covered in class. Specific emphasis will be placed on preparing students to take the Keystone Algebra I Exam. Passage of this exam is a graduation requirement starting with the class of 2017
- 337 GEOMETRY** (10<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 credit  
**87337 OL GEOMETRY**  
Students will be exposed to a strong foundation in Geometry aligned with the Common Core Standards. Topics include measurement, reasoning and proof, angle relationships, similarity and congruence, area and volume, an introduction to right triangle trigonometry, and properties of circles.

- 353 ALGEBRA II** (10<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 credit  
**87353 OL ALGEBRA II**  
 Students will be exposed to a strong foundation in Algebra II aligned with the Common Core Standards. Topics include functions, systems of equations, quadratic functions, polynomials, radicals and rational exponents, exponential and logarithmic functions, rational functions, sequences and series, and probability and statistics. Some coursework will require the use of a TI-83 graphing calculator.
- 368 STATISTICS** (10<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 credit  
 The purpose of the statistics course is to introduce students to the major concepts and tools for collecting, analyzing and drawing conclusions from data. Students are exposed to four broad conceptual themes: 1. Exploring Data: Describing patterns and departures from patterns 2. Sampling and Experimentation: Planning and conducting a study 3. Anticipating Patterns: Exploring random phenomena using probability and simulation 4. Statistical Inference: Estimating population parameters and testing hypotheses  
**Prerequisite:** Students taking the course must have successfully completed Algebra II
- 355 PRE-CALCULUS** (11<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 credit  
**87341 OL PRECALCULUS**  
 Students will be exposed to a strong foundation in Pre-calculus aligned with the Common Core Standards. Topics to be studied include functions and graphs, polynomial, power and rational functions, exponential, logistic and logarithmic functions, an extensive study of trigonometry, and discrete mathematics. **Students taking this course will be eligible to earn either WCCC or Mt. Aloysius credit through participation in the IASD College in High School Program.**
- 344 ADVANCED PLACEMENT CALCULUS I AB** (11<sup>th</sup> – 12<sup>th</sup> grades) full year/weighted 1.00 credit  
 This course consists of a full year of work in calculus and related topics comparable to courses in college and universities. The course is intended for students who have a thorough knowledge of college preparatory mathematics, including algebra, axiomatic geometry, trigonometry, and analytic geometry. The course will cover topics of elementary functions, limits of functions, continuity, differential calculus and integral calculus. The course is designed to prepare the student for the Advanced Placement Calculus examination. All members of the class are expected to take the AP Calculus AB exam given in May at their own expense (approximate \$91.00 fee). There will be no final examination requirement for this course. This course may include a summer assignment.
- 345 ADVANCED PLACEMENT CALCULUS II BC** (12<sup>th</sup> grade) full year/weighted 1.00 credit  
 This course consists of a full year of study in calculus and related topics comparable to second semester college calculus courses. The course is intended for students who have completed both course 344, Advanced Placement Calculus, and course 346, Advanced Placement Statistics. This course may be offered as an independent study course. Students electing to take this course must be highly motivated independent learners. All members of the class are expected to take the Advanced Placement Calculus BC Level Exam given in May at their own expense (approximate \$91.00 fee). There will be no final examination requirement for this course.
- 346 ADVANCED PLACEMENT STATISTICS** (10<sup>th</sup> - 12<sup>th</sup> grades) full year/weighted 1.00 credit  
 This course is offered to any student who has successfully completed Functions, Statistics and Trigonometry. It can be taken along with but NOT in place of Pre-calculus and Discrete Mathematics. However, this course can be taken along with OR in place of AP Calculus or Calculus. This course is equivalent to a one semester, introductory, non-calculus based, college course in statistics. Many colleges and universities require this type of course for most of their majors. This course consists of four broad themes:  
 1) Exploring Data  
 2) Planning a Study  
 3) Producing Models using Probability and Simulation  
 4) Statistical Inference, Confirming Models  
 Students will extensively use TI-83 graphing calculators and FATHOM (popular statistical software used in universities and in the workplace). The students will also participate in projects (group and individual) and present their material using the Microsoft Office Series (Excel, Word, and PowerPoint). Career opportunities will also be explored. All members of the class are expected to take the AP exam given in May at their own expense (approximate \$91.00 fee). There will be no final examination requirement for this course.
- 369 MULTIVARIABLE CALCULUS III** (12<sup>th</sup> Grade) full year/weighted 1.00 credit  
 This course consists of a full year of work in multivariable calculus and related topics comparable to third semester college Calculus courses. The course is intended for students who have a thorough knowledge of limits, differentiation, and integration of single variable functions. This course may be offered as an independent study course. The course will cover topics of graphical representations of multivariable curves, vectors, limits of multivariable functions, differential calculus of multiple variables and multiple integration calculus. The course is designed to complete the student's study of Calculus. Prerequisite: Students taking the course must have successfully completed AP Calculus BC

### Other Math Electives -

- 332 INTEGRATED MATHEMATICS III: SPECIAL TOPICS** (12<sup>th</sup> grade) full year 1.00 credit  
**87332 OL INTEGRATED MATHEMATICS III**

Integrated Mathematics III : Special Topics – This course is intended for 12th graders who may not feel prepared to move forward with their next sequential math course in our regular math sequence as supported by the recommendation of their 11th grade math teacher. It is intended to provide students with an additional opportunity to master topics from Algebra, Geometry, Probability and Statistics, and Trigonometry. A student who has passed Algebra 2 with a 3.0 or higher will NOT be permitted to enroll in this course

- 400 SUPPLEMENTAL INSTRUCTION ALGEBRA I/PBA (9th – 12th grades) .50 credit**

"Pass" grade with a score of proficient on Keystone Exam. This course is designed in response to the supplemental course offering requirement of 22 PA Code Chapter 4 for students who do not demonstrate proficiency on the Keystone assessment for Algebra. Supplemental instruction must be consistent with the currently approved content courses which are aligned to PA Core Standards and/or PA Academic Standards and are designed to assist the student in achieving proficiency on retest opportunities of the state assessments. Students who participate in supplemental instruction may retake the assessments in December and/or May. December assessments results are typically provided in March and May results are typically provided by mid-summer. A student will not receive .5 credit (Pass) until they have successfully demonstrated proficiency on the exam and/or associated PBA. Note: Students in the classes of 2015 and 2016 may "audit" these Supplemental Instruction classes to assist them in the retest process. These students will not receive credit or the P grading option for scoring proficient on the Keystone Exams, as it is not a requirement for graduation until the Class of 2017.

### MUSIC

- 732 WIND ENSEMBLE** (9<sup>th</sup> – 12<sup>th</sup> grades) full year (M,W,F) .60 credit

This course is open to senior high students who display the desire and ability to perform wind band literature. Wind Ensemble performs at least two programs per year. The director will determine placement in Wind Ensemble. **All students must participate in both Marching Band and Wind Ensemble.** Exceptions to this policy may be granted based on athletic/academic need at the director's discretion. **Students selected to participate in Wind Ensemble must receive a weekly private lesson.** The director gives lessons during the school day and/or after school. Private lessons by a teacher outside the district will satisfy the lesson requirement as well. **Eligibility in course 732 is based upon MUSICAL PROFICIENCIES and PERMISSION OF THE DIRECTOR. Auditions are held prior to scheduling in the spring each year.** This class is paired with Jazz Band I during the same period and is held on Monday, Wednesday and Friday.

- 746 JAZZ BAND I** (9<sup>th</sup> – 12<sup>th</sup> grades) full year (T, R) .40 credit

This course is open to senior high students who display the desire and ability to perform jazz band literature. The Jazz Band I performs at least two programs per year. The director will determine placement in Jazz Band I. **All students must participate in both Marching Band and Jazz Band I.** Exceptions to this policy may be granted based on athletic/academic need at the director's discretion. **Students selected to participate in Jazz Band I must receive a weekly private lesson.** The director gives lessons during the school day and/or after school. Private lessons by a teacher outside the district will satisfy the lesson requirement as well. **STUDENTS IN JAZZ BAND I MUST ALSO BE ENROLLED IN WIND ENSEMBLE 732. Eligibility in course 746 is based upon MUSICAL PROFICIENCIES and PERMISSION OF THE DIRECTOR.** Auditions are held prior to scheduling in the spring of the year. This class is paired with Wind Ensemble during the same period and is held on Tuesday and Thursday.

- 745 SYMPHONIC BAND** (9<sup>th</sup> – 12<sup>th</sup> grades) full year (M, W, F) .60 credit

This course is open to all senior high students who display the desire and ability to perform wind band literature. Symphonic Band performs at least two programs per year. The director will determine placement in Symphonic Band. Students placed in Symphonic Band are encouraged to also participate in **Marching Band**, although this participation is not mandatory. **Students selected to participate in Symphonic Band must receive a weekly private lesson.** The director gives lessons during the school day and/or after school. Private lessons by a teacher outside the district will satisfy the lesson requirement as well. **Eligibility in course 745 is based upon MUSICAL PROFICIENCIES and PERMISSION OF THE DIRECTOR.** This class is paired with Jazz Band II and is held on Monday, Wednesday and Friday.

- 747 JAZZ BAND II** (9<sup>th</sup> – 12<sup>th</sup> grades) full year (T, R) .40 credit

This course is open to senior high students who display the desire and ability to perform jazz band literature. Jazz Band II performs at least two programs per year. The director will determine placement in Jazz Band II. Students placed in Jazz Band II are encouraged to also participate in **Marching Band**, although this participation is not mandatory. **Students selected to participate in Jazz Band II must receive a weekly private lesson.** The director gives lessons during the school day and/or after school. Private lessons by a teacher outside the district will satisfy the lesson requirement as

well. **STUDENTS IN JAZZ BAND II MUST ALSO BE ENROLLED IN SYMPHONIC BAND 745. Eligibility in course 747 is based upon MUSICAL PROFICIENCIES and PERMISSION OF THE DIRECTOR.** This class is paired with Symphonic Band and is held on Tuesday and Thursday.

- 734 ORCHESTRA** (9<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 credit  
 The senior high orchestra is a string orchestra, consisting of violinists, violists, cellists, and bassists. Any student who has studied one of these instruments for at least one year is invited to participate. The ensemble performs three concerts per year, and additionally performs at high school graduation. Senior High Orchestra performs developmentally appropriate literature from a variety of genres and eras of musical history, including: Renaissance, Baroque, Classical, Romantic, Impressionistic, 20<sup>th</sup>-Century, and 21<sup>st</sup> Century New Music. Additionally, the ensemble performs arrangements of music from a variety of global, American Classical (Jazz), and popular styles. Rehearsals are focused on applying appropriate performance techniques, historically accurate performance practices, and accepted expressive elements to the musical literature in preparation for performance. Instrumental lessons are offered during the school day, and three lessons with the orchestra conductor per quarter are required for participation. Students who study in a private studio are exempt from school lessons.
- 740C A CAPPELLA CHOIR** (10<sup>th</sup> – 12<sup>th</sup> grades) full year (M, W, F) .60 credit  
 Auditions are held prior to scheduling in the spring each year. Though the group is named A CAPPELLA CHOIR, it performs both accompanied and unaccompanied music selected from the best of choral literature for mixed voices. Three programs are prepared and presented each year. **\*Eligibility is based upon MUSICAL PROFICIENCIES and PERMISSION OF THE DIRECTOR.**
- 737 MEN'S CHORUS** (9<sup>th</sup> – 12<sup>th</sup> grades) full year (T, R) .40 credit  
 This course is available for students to gain a wide knowledge of choral literature arranged in three or four parts for men's voices. Literature used includes contemporary, classical, barbershop, show tunes, spirituals, and humorous styles of music. Three programs are prepared and presented each year. This is a good opportunity for students to gain confidence in their singing abilities. No audition is necessary to schedule this course.
- 744 WOMEN'S CHORUS** (9<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 credit  
 This course is for students to gain a wide knowledge of choral literature arranged in two (SA) or three (SSA) treble parts. Experience is gained outside of the more familiar four-part, mixed voice arrangements. Three programs are prepared and presented each year. This is a good opportunity for students to gain confidence in their singing abilities. No audition is necessary to schedule this course.
- 738 MUSIC THEORY** (9<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 credit  
 This course is designed for the serious music student to learn the fundamentals of harmony. Chord structure will take them through the progressions and resolutions of the I, IV and V in all their inversions and in all major and minor keys. This course is preparatory for students contemplating music as a profession, or for those proficient students who wish to know more about the inner workings of music. **The ability to read music in at least treble and/or bass clef is a prerequisite.**

### READING

- 193 DEVELOPMENTAL READING I** (9<sup>th</sup> grade) 1<sup>st</sup> semester .50 credit  
**194 DEVELOPMENTAL READING II** (9<sup>th</sup> grade) 2<sup>nd</sup> semester .50 credit  
 This course is designed for ninth grade students who need to improve their reading skills in order to comprehend grade level materials in all content areas. Placement will be determined by a variety of assessments as well as teacher and/or counselor recommendation. The course objectives include developing comprehension skills, vocabulary skills, critical reading/thinking skills, and functional literacy skills that can be applied to all other subjects.

### SCIENCE

- 304 BIOLOGY** (9<sup>th</sup> – 11<sup>th</sup> grades) full year 1.20 credit  
**87302 OL BIOLOGY** (No lab) 1.00 credit  
 This Biology course deals with investigation centered upon four major themes: unity, diversity, continuity, and interaction. Throughout the course, the students are exposed to applications of biological knowledge in the investigation of current problems, shown how biology relates to everyday life and given a foundation for future studies in science-related areas. Parents/guardians of 9<sup>th</sup> graders who choose to accelerate student learning in Biology are encouraged to review PVAAS Keystone Exam student success probability information with their school counselors. There is a strong correlation between projection data and success on the Keystone Biology exam. Students who do not score proficient on Keystone Exams will be scheduled for supplemental instruction the following school year. Additionally, accelerated Biology students should be enrolled in Algebra II and possess aptitude and commitment to enroll in successive AP level science course work.

- 803C ANATOMY AND PHYSIOLOGY** (12<sup>th</sup> grade elective) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
This elective course is designed for students who desire to expand their knowledge in structure and function of human body. Topics of instruction may include anatomy and physiology, personal wellness, care and prevention of injuries, exercise physiology, training techniques and other related areas of interest.
- 87840 OL ANATOMY & PHYSIOLOGY I** (Elective) (11<sup>th</sup> 12<sup>th</sup> Grade) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
This elective course is designed for students who desire to expand their knowledge of the health field. Topics of instruction include anatomy and physiology, personal wellness, care and prevention of injuries, exercise physiology, training techniques and other related areas of interest. The purpose of this one-half credit elective course, which incorporates an introduction to basic structure and function, is to prepare students for the demands of coursework in anatomy and physiology beyond high school. Students would need to pass Biology and pass the Biology Keystone exam as prerequisites to this course.
- 87841 OL ANATOMY & PHYSIOLOGY II: HUMAN BODY ORGAN SYSTEM** (11<sup>th</sup> – 12<sup>th</sup> Grade) 1<sup>st</sup> or 2<sup>nd</sup> sem. .50 credit  
This online course is designed to help students learn the components, structure, function, and disorders of the following human body organ systems: nervous, sensory, cardiovascular, respiratory, integumentary, lymphatic, immune, digestive, urinary, endocrine, and reproductive. OL Anatomy & Physiology I: Dynamics of Health covers the muscular and skeletal systems so only disorders of the musculoskeletal system are covered. Students would need to pass Biology and pass the Biology Keystone exam as prerequisites to this course.
- 303 ADVANCED PLACEMENT BIOLOGY** (11<sup>th</sup> – 12<sup>th</sup> grades) (Double-Period) 1.20 credit  
The AP Biology course is designed for students who have highly achieved in Biology 302 and Chemistry I (a 3.0 or better in both courses), and are interested in college Biology or related fields. AP Biology is a full year course, with lab periods, and is comparable to Introductory Biology courses in colleges and universities. Through labs, lectures, readings, essays and other assignments, students will study biology through the study of four major concepts:  
1. **Evolution** – How evolution drives the unity and diversity of life. 2. **Metabolic Processes** – How biological systems utilize free energy and molecules to grow, to reproduce, and to maintain homeostasis. 3. **Genetics** – How living things store, retrieve, transmit and respond to information essential for life. 4. **Ecology** – How the interactions of biological systems and the complex properties those interactions possess. This course will include a summer assignment. The AP exam will replace the final examination for this course. All members of the class are required to take the AP exam given in May at their own expense (approximate \$93.00 fee). Students who refuse to take the AP exam will have AP and weighing of the AP course grades removed from their transcript. **\*Teacher or counselor recommendation required.**
- 307 ENVIRONMENTAL SCIENCE** (9<sup>th</sup> grade) full year 1.00 credit  
**87307 OL ENVIRONMENTAL SCIENCE**  
Students will examine the world around them as they investigate ecosystems, populations, resources, water air, and land as well as human impacts on the environment. Student centered activities including laboratory exercises and projects will be an important part of the learning experience. This course is the required grade 9 course for student not taking Biology, course 302. Students taking Biology, course 302, in grade 9 can elect to take this course in grade 10. **\*Eleventh and twelfth graders can only take this course with teacher or counselor recommendation.**
- 308 CHEMISTRY** (10<sup>th</sup> – 12<sup>th</sup> grades) full year (Double-Period) 1.20 credit  
**87311 OL CHEMISTRY** (no lab) 1.00 credit  
This is a traditional chemistry course that introduces concepts about the structure and properties of chemical substances and the changes that these substances undergo with an emphasis on applications and real world situations. A laboratory component is included in this course. A background in algebraic mathematical concepts is needed for those enrolled as this course requires the application of mathematics for problem solving. This course is recommended for those students who are planning to attend college. There is a cumulative final exam. (Chemistry 308 does **not** serve as a pre-requisite course for taking AP Chemistry.) **Students taking this course will be eligible to either WCCC or Mt. Aloysius credit through participation in the IASD College in High School Program.**
- 309 FOUNDATIONS OF CHEMISTRY** (11<sup>th</sup> – 12<sup>th</sup> grades) (full year) 1.00 credit  
The class is designed to expose students to basic chemistry concepts: the properties of matter, the periodic table, compounds and chemical reactions using various application and hands-on activities. The class is 5 periods a week and students will be assigned by a guidance counselor.
- 313 ADVANCED PLACEMENT CHEMISTRY** (11<sup>th</sup> – 12<sup>th</sup> grades) full year/weighted (Double-Period) 1.20 credit  
AP Chem is a college level course that covers the same material as a typical first year college chemistry course as defined by the College Board and is organized around six "big ideas" and seven "science practices" as listed below. The course includes laboratory work including two field trips to IUP. Students are required to take the AP Exam at their own expense in May in order to earn a weighted grade for the course. Any student not taking the AP Exam also must take a final exam. Students must successfully complete Honors Chemistry 314 prior to enrolling in AP Chemistry.

The course centers around six big ideas and seven science practices:

Big Ideas	Science Practices
1. Structure of Matter	1. Drawing, explaining, and interpreting representations
2. Bonding and Intermolecular Forces	2. Using mathematics and logical routines appropriately
3. Chemical Reactions	3. Asking and refining scientific questions
4. Kinetics	4. Designing and implementing data collection strategies
5. Thermodynamics	5. Analyzing and evaluating data
6. Chemical Equilibrium	6. Making predictions and justifying claims with evidence
	7. Connecting chemistry concepts across the big ideas.

- 314 HONORS CHEMISTRY** (10<sup>th</sup> – 12<sup>th</sup> grades) full year (Double-Period) 1.20 credit  
 Honors Chemistry will provide students with a comprehensive understanding of the structure and properties of chemical substances and the changes that these substances undergo. Students taking this course are expected to take AP Biology and/or AP Chemistry and/or AP Physics in future years. Students in this course will need to solve “word problems” and write detailed laboratory reports. Grades in this course will largely be based on tests, quizzes, and laboratory reports. Students will be assigned homework. There is a cumulative final exam. (Honors Chemistry 314 is a pre-requisite course for taking AP Chemistry.) **Students taking this course will be eligible to either WCCC or Mt. Aloysius credit through participation in the IASD College in High School Program.**  
 There will be a summer pre-assignment for this course that will be online and must be completed by August 15<sup>th</sup>. Students will be unable to remain in the course if they do not successfully complete this assignment. In order to enroll in this course, students will be required to: \*Be enrolled in or have completed Algebra II or a higher math course. \* Be proficient on all prior Keystone Exams. \*Be recommended by a biology teacher. \*Score above the cut-off on a pretest.
- 315 AP PHYSICS II**(11<sup>th</sup> – 12<sup>th</sup> grades) full year (Double-Period) 1.20 credit  
 This course follows the AP Physics 2 curriculum. The course covers fluid mechanics; thermodynamics; electricity and magnetism; optics; and atomic and nuclear physics. Many home assignments including summer assignments may be given. All members of this class must take the AP Physics 2 Exam in May at their own expense (approximately \$93.00). No final examination requirement for this course. **Students must have successfully completed Pre-calculus prior to enrollment.**
- 316 AP PHYSICS I** (10<sup>th</sup> – 12<sup>th</sup> grades) full year/weighted (Double-Period) 1.20 credit  
 This course follows the AP Physics 1 curriculum. The course curriculum includes Newtonian mechanics (including rotational dynamics and angular momentum); work, energy, and power; and mechanical waves and sound. It will also introduce electric circuits. Many home assignments, including summer assignments will be given. All members of this class must take the AP Physics 1 Exam in May at their own expense (approximately \$93.00 fee). No final examination requirement for this course. **Students must be enrolled in or completed Pre-calculus.**
- 318 GENERAL PHYSICS** (10<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 credit  
**87318 OL PHYSICS** (no lab)  
 Physics is the study of matter and energy. Basic concepts of measurement, matter, energy, heat, optics and electrostatics will be covered during the year. Emphasis will be on concepts and problem solving. **Students must be enrolled in or completed Algebra II.**
- 318L STEM PHYSICS LAB**(10<sup>th</sup> – 12<sup>th</sup>) full year 1.00 credit  
 This course is a component of general physics designed to validate analytical data through graphical problem solving techniques. Within this course students will experience applications of physics through student generated CAD drawings and physicals models using the basic tenets of STEM. The latest version of design software such as AutoCAD and Inventor Professional will be used as the students produce two dimensional and three dimensional drawings and models that directly reflect the content covered in physics 318. The students will document competencies learned in physics by way of a portfolio. Elements of the portfolio may include detailed drawings, research documents, reflections of findings and the physics concepts to be validated. This course will be instructed in the IHS Technology and Engineering facility utilizing the



latest lab resources. This is a 1 credit course and is offered 5 days a week for the entire year. **\*Course requirements: successful completion of geometry and be concurrently enrolled in Algebra 2**

**297 FORENSIC SCIENCE** (10<sup>th</sup> – 12<sup>th</sup> grades) 1<sup>st</sup> semester .50 credit  
 This is a one semester introductory course exposing students to various branches of forensic science. Throughout the course, students will use complex reasoning skills and critical thinking to analyze physical evidence often found at crime scenes. Emphasis will be on the history of forensic science, crime scene processing, hair and fiber analysis, impression evidence, glass and soil evidence, blood analysis, DNA analysis, and post mortem intervals.

**321 ASTRONOMY** (10<sup>th</sup> – 12<sup>th</sup> grades) 2<sup>nd</sup> semester .50 credit  
**87321 OL ASTRONOMY**  
 This is a one semester introductory course dealing with features and relationships of the various parts of the physical universe. Emphasis will be on the celestial sphere, stellar astronomy, constellations, members of the solar system, and the tools and methods of the astronomers. A multitude of audiovisual materials will be employed. Laboratory experiences and night sessions using several small telescopes and binoculars will be part of the course.

**401 SUPPLEMENTAL INSTRUCTION BIOLOGY/PBA** (10<sup>th</sup> – 12<sup>th</sup> grades) .50 credit  
 "Pass" grade with a score of proficient on Keystone Exam  
 This course is designed in response to the supplemental course offering requirement of 22 PA Code Chapter 4 for students who do not demonstrate proficiency on the Keystone assessment for Biology. Supplemental instruction must be consistent with the currently approved content courses which are aligned to PA Core Standards and/or PA Academic Standards and are designed to assist the student in achieving proficiency on retest opportunities of the state assessments. Students who participate in supplemental instruction may retake the assessments in December and/or May. December assessment results are typically provided in March and May results are typically provided by mid-summer. A student will not receive .5 credit (Pass) until they have successfully demonstrated proficiency on the exam and/or available Project Based Assessment.

**SOCIAL STUDIES**

Social Studies Course Requirements		
Grade	Required Courses	
9	295	Civics and Government
10	201 -or- 202	America and the World II  AP United States History
11	210 -or- 211	America and the World III  AP European History
12	217 -and- one of the following  -or - 218 -or- 404	Economics  219 AP US Government and Politics 220 Introduction to Psychology 250 Introduction to Sociology 323 Introduction to Anthropology  AP Macroeconomics  Foundations of Citizenship

**180 PHYSICAL AND REGIONAL GEOGRAPHY** (9<sup>th</sup> – 12<sup>th</sup> grade) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
**87180 OL PHYSICAL AND REGIONAL GEOGRAPHY** (9<sup>th</sup> – 12<sup>th</sup> grade) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
 Physical and Regional Geography is a one-semester elective for Senior High students in grades 9-12. In this course, students will develop an understanding of the world around them. In the first half of the course, students will examine the organizing principles of the subject of geography, the methods used by geographers to study the world, and the physical forces that shape the world. In the second half of the course, students will select three or more geographic regions for more in-depth study.

**295 CIVICS AND GOVERNMENT** (9<sup>th</sup> grade) full year 1.00 credit

**87295 OL CIVICS AND GOVERNMENT**

This is the required social studies course for freshmen. Students will study the historical origins of modern systems of government and the philosophical foundations of US and PA governments. They will examine the rights and responsibilities of individuals in democratic society. They will explore the development of individual political beliefs and values and the ways in which individuals and groups participate in the political process. Students will study election procedures, significant elections in history, and the role of parties, campaigns, interest groups, and the media in elections and policy-making. Students will examine the organization and operation of the legislative, executive, and judicial branches of national and state government. Students will examine state and municipal government in Pennsylvania, focusing on Indiana County and local boroughs, townships, and school boards. Finally, students will explore specific aspects of public policy in both the foreign and domestic arenas. In addition to tests, quizzes, projects, and homework, students will also be required to complete current event assignments on a regular basis. This course includes a comprehensive culminating activity/final examination.

**201 AMERICA AND THE WORLD II: 1877-1945** (10<sup>th</sup> grade) full year 1.00 credit

**87201 OL AMERICA AND THE WORLD II: 1877-1945**

America and the World II is the required Social Studies course for tenth grade students. In this course, students will explore the political, economic, and social development of the United States in the context of world events from the mid-1800's through the end of World War II. Students will examine key issues in American History and explore international connections and consequences. Particular attention will be given to the rise of the United States as a force in world affairs. This course includes a comprehensive culminating activity or final examination.

**202 ADVANCED PLACEMENT US HISTORY** (10<sup>th</sup> – 12<sup>th</sup> grades) full year/weighted 1.00 credit

This course is for selected tenth grade students and replaces America and the World II: 1877-1945. Eleventh and twelfth graders may elect to schedule this course in addition to the appropriate required social studies course. This is a college-level course designed to examine critical issues in US History. The course will cover the content of American History from the Age of Exploration to the present day. Students will analyze and evaluate the events, people, documents and opinions that define the American experience. Emphasis will be placed on using primary source documents, comprehension of reading materials, and writing skills. This course includes mandatory summer reading and writing assignments. All members of the class are expected to take the Advanced Placement exam given in May at their own expense (approximate \$94.00 fee). There will be no final examination requirement for this course.

The following are required in order to participate in this course:

- Pretest in May 2019
- Two teacher recommendations, one English and one Social Studies.  
(Recommendation forms are available in the senior high guidance office.)
- Enrollment in accelerated English
- Successful completion of a general historical knowledge pretest and a critical thinking writing prompt (to be administered at the senior high school on the scheduled early dismissal day in May, 2018)
- Successful completion of the previous year's required social studies course (minimum 3.70 recommended average)

**210 AMERICA AND THE WORLD III: 1945 – PRESENT** (11<sup>th</sup> – 12<sup>th</sup> grade) full year 1.00 credit

**87210 OL AMERICA AND THE WORLD III: 1945 – PRESENT**

This is the final course in the three-year secondary history sequence and is required for students in the eleventh grade. In this class, students will study global political, economic, social, and cultural developments with particular attention on the role of the United States in world affairs. This course focuses on events from the end of World War II to the Present. This course includes a comprehensive culminating activity or final examination

**211 ADVANCED PLACEMENT EUROPEAN HISTORY** (11<sup>th</sup> – 12<sup>th</sup> grades) full year/weighted 1.00 credit

This course is for selected eleventh grade students and replaces America and the World III: 1945 – Present. Students in twelfth grade may schedule this course as an elective, but it does not fulfill twelfth grade requirements. This course will acquaint the student with the great ideas and forces that shaped the modern western world and provide an opportunity to explore the origins and history of western civilization through an in-depth study of Europe. Completion of this course should enable a student to obtain college credit for a freshman World Civilization course by taking the Advanced Placement European History test in May. This course includes a mandatory summer reading assignment. All members of the class are expected to take the AP exam given in May at their own expense (approximate \$94.00 fee). There will be no final examination requirement for this course. **\*Teacher recommendation required. Students must be scheduled accelerated, or Advanced Placement English in order to schedule this course.**

**217 ECONOMICS** (12<sup>th</sup> grade) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit

**87217 OL ECONOMICS**

Economics is a required twelfth grade Social Studies course. Economics is the social science of cost, benefit and choice. The course introduces students to the economic way of thinking and demonstrates how individual and social decision making in private and public sectors affects consumers and citizens in different economic systems. The concepts of supply and demand at the micro-macroeconomics level are utilized to illustrate the structure and function of various business firms and market organizations. Developing a comprehensive investments portfolio evidences practical application of economic concepts such as the stock market and other securities investments. In addition, the study of integral components of the U.S. economy including income, inflation, unemployment, money and banking, monetary and fiscal policies, and international trade will provide students with valuable insight to become productive workers, educated consumers and informed citizens.

**218 AP MACROECONOMICS** (12<sup>TH</sup> grade) full year 1.00 credit

AP Macroeconomics is a college-level course designed to provide motivated students with an introduction to the theory and practice of macroeconomic analysis and policy-making. Beginning with an overview of basic economic concepts, such as the structure of markets and the principles of supply and demand, students will develop an understanding of the tools of economists. From there, students will carefully explore the operation of the economy – measuring growth, employment, and prices. Next, students will analyze government policy options for ensuring economic stability and encouraging long-term growth. Finally, students will examine issues surrounding the globalization and interdependence of the economy. Assessment will consist of a variety of activities, such as class participation, homework assignments, independent projects, and AP-format unit exams. At the end of the year, students will conduct independent research and prepare a formal paper on a public policy topic of their choosing.

\* Successful completion of a summer assignment is required for admission to this course.

\* Students taking this course should already have completed or be taking at the same time an AP level math course.

\* In May, students are required to take the AP examination corresponding to this course at their own expense (approximate \$94.00 fee). Students who schedule AP Macroeconomics will be exempted from the senior-year Economics and Senior Elective requirements.

**219 ADVANCED PLACEMENT U.S. GOVERNMENT & POLITICS** (12<sup>th</sup> grade) full year/weighted 1.00 credit

AP United States Government and Politics is a college-level course designed to provide motivated students with an introduction to the theory and practice of American government and political science. Beginning with the philosophical and theoretical foundations of U.S. government, students will develop an understanding of the “why” of politics. From there, students will participate in a careful study of the “how” of American politics – ideology and participation, campaigns and elections, the role of the media and interest groups, the structure and function of government institutions, and current issues of public policy. Assessment will consist of a variety of activities, such as class participation, homework assignments, independent projects and AP-format unit exams. At the end of the year, students will conduct independent research and prepare a formal paper on a public policy topic of their choosing. -Successful completion of a summer assignment is required for admissions to this course. -Students are required to take the AP examination corresponding to this course at their own expense (approximately \$94.00) \*This course satisfies the Senior Elective requirement.

**220 INTRODUCTION TO PSYCHOLOGY** (12<sup>th</sup> grade) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit

**87220 OL INTRODUCTION TO PSYCHOLOGY**

Introduction to Psychology is a one-semester elective for students in the twelfth grade. In this course, students will explore a variety of topics related to the social science field of Psychology. During the first half of the course, students will study the history and development of Psychology as a discipline, the essential aspects of Psychology research methods, and the influence of human biology on psychological processes. During the second half of the course, students will choose up to three specific topics for in-depth study. Topic choices will include: abnormal, cognition, developmental, personality, social, and states of consciousness. Mastery of learning objectives will be assessed through various methods such as class participation, homework assignments, in-class activities, independent projects, and unit exams.

\*This course satisfies the Senior Elective requirement.

**221 HUMAN GEOGRAPHY** (10<sup>th</sup> – 12<sup>th</sup> grades) 1st or 2nd semester .50 credit

Human Geography is a one-semester elective for Senior High students in grades 9-12. In this course, students will develop an understanding of the relationship between people and our surroundings. In the first half of the course, students will examine the organizing principles of the subject of geography, the methods used by geographers to study the world, and the causes and nature of human migrations. In the second half of the course, students will focus on three or more of the following topics for more in-depth study: cities, cultures, economies, languages, politics, and religions.

- 232 THE HISTORY OF ORGANIZED CRIME** (10<sup>th</sup> – 12<sup>th</sup> grades) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
 This course will examine a variety of topics in American History through the lens of organized crime. While the content will focus on the development, activities, and structure of Organized Crime in America, it will be done on the backdrop of immigration, industrialization, Prohibition, and economic principles. It will consider the social and demographic factors that led to the emergence of organized crime, and extend to its ramifications on politics, labor history, criminal justice systems, and state and federal legislation. The persistence of crime and various attempts to combat it will also be a primary focus.
- 250 INTRODUCTION TO SOCIOLOGY** (12<sup>th</sup> grade) 1st or 2nd semester .50 credit  
**87250 OL INTRODUCTION TO SOCIOLOGY**  
 Introduction to Sociology is a one-semester elective for students in the twelfth grade. In this course, students will explore a variety of topics related to the social science field of Sociology.  
 During the first half of the course, students will study the history and development of Sociology as a discipline, the essential aspects of Sociology research methods, and the basic structures of society, social groups, and cultures. During the second half of the course, students will choose up to three specific topics for in-depth study. Topic choices will include: class and inequality, race and ethnicity, gender and sexuality, deviance and conformity, religion and family, and education and labor. Mastery of learning objectives will be assessed through various methods such as class participation, homework assignments, in-class activities, independent projects, and unit exams.  
 This course includes a culminating activity / final examination. This course satisfies the Senior Elective requirement in Social Studies.
- 323 INTRODUCTION TO ANTHROPOLOGY** (12<sup>th</sup> grade) 1st or 2nd semester .50 credit  
 Introduction to Anthropology is a one-semester elective for students in the twelfth grade. In this course, students will explore a variety of topics related to the social science field of Anthropology. During the first half of the course, students will study the history and development of Anthropology as a discipline, the essential aspects of Anthropology research methods, and the biological foundations of human life. During the second half of the course, students will choose up to three specific topics for in-depth study. Topic choices will include: culture and language, economics and politics, family and kinship, globalization and modernization, religion and ritual, and society and status. Mastery of learning objectives will be assessed through various methods such as class participation, homework assignments, in-class activities, independent projects, and unit exams. This course includes a culminating activity / final examination. This course satisfies the Senior Elective requirement in Social Studies. **Students taking this course will be eligible to earn WCCC credit through participation in the IASD College in High School Program.**
- 404 FOUNDATIONS OF CITIZENSHIP** (12<sup>th</sup> grade) full year 1.0 credit  
 Foundations of Citizenship is a substitute for the twelfth grade Social Studies requirement designed for students who experience difficulty in other Social Studies courses. In the first half of the course, students will review important concepts from Civics and Government such as founding documents, the structure of US and PA governments, the role of citizens in the political process, and the electoral system. In the second half of the course, students will study major themes in Economics, such as the function of markets, the measurement of the national economy, the effects of government policies, and the spread of globalization. Throughout the course, special attention will be given to the development of study skills and improvement of vocabulary and conceptual knowledge. Enrollment in this course requires the recommendation of the student's eleventh grade Social Studies teacher. This course includes a culminating activity / final examination.
- 87403 OL STRATEGIES FOR ACADEMIC SUCCESS** (9<sup>th</sup> - 12<sup>th</sup> grade) 1st or 2<sup>nd</sup> semester .50 credit  
 The purpose of this one-half credit elective course, which incorporates an introduction to basic psychological and educational concepts, is to prepare students for the demands of high school coursework. While students work to acquire familiarity with a variety of note-taking, test-taking, memorization, and reading comprehension skills, they will complete a variety of activities intended to aid in the identification of academic strategies that are most likely to help the individual student achieve academic success.
- 87404 OL DIGITAL CITIZENSHIP** (9<sup>th</sup> - 12<sup>th</sup> grade) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
 In this one-semester course, students develop essential study skills for academic success, such as staying organized, managing time, taking notes, applying reading strategies, writing strong papers, and researching and properly citing information. Explicit modeling and ample practice are provided for each study skill to support student mastery. Instruction on how to be a responsible online learner is threaded throughout the course, and these skills are directly addressed in lessons on cyberbullying, staying safe online, and becoming a digital leader. A basic understanding of software and hardware and how to troubleshoot common technology issues are also taught. By the end of the course, students will have the tools they need to be academically successful in both traditional and digital learning environment

## TECHNOLOGY EDUCATION

IHS Technology and Engineering Education Course Offerings				
Please read this chart left to right All courses are one semester in length for .5 credit				
600's	640's	650's	660's	669 or 534
<p style="text-align: center;"><b><u>Start Here</u></b></p> <p style="text-align: center;"><b>Science of Engineering 600</b> (Recommending as a 9th grade course)</p> <p><i>Note: ALL Classes require the prior level for admission AND a 2.0 gpa from that class</i></p>	<b>CADD 640</b> <i>Grades 9-12</i>	<b>Architectural Drafting 657</b> <i>Grades 10-12</i>	<b>Architectural Design 667</b> <i>Grades 10-12</i>	<b>Independent Study/ Research &amp; Development/ 669</b> (one period per day for .5 credit) <i>Grades 11-12</i>  <b>OR</b>  <b>Senior Career Seminar 534</b> (three periods per day or 10 hours per week for 1.5 credits) <i>Grade 12 Only</i>
		<b>Parametric Modeling 658</b> <i>Grades 10-12</i>	<b>Engineering Design 668</b> <i>Grades 10-12</i>	
	<b>Manufacturing Processes 641</b> <i>Grades 9-12</i>	<b>Manufacturing Engineering 651</b> <i>Grades 10-12</i>		
	<b>Robotics Engineering I 642</b> <i>Grades 9-12</i>	<b>Robotics Engineering II 652</b> <i>Grades 10-12</i>		
	<b>Fabrication Processes 643</b> <i>Grades 9-12</i>	<b>Fabrication Engineering 653</b> <i>Grades 10-12</i>		
	<b>Aspects of Engineering I 644</b> <i>Grades 10-12</i>	<b>Aspects of Engineering II 654</b> <i>Grades 10-12</i>		
		<b>STEM Physics Lab 00318L</b> <i>Schedule when taking General Physics only</i>		

**Technology education** is the study of technology, in which students “learn about the processes and knowledge related to technology”. As a field of study, it covers the human ability to shape and change the physical world to meet needs, by manipulating materials and tools with techniques.

**Engineering** The creative application of scientific principles to design or develop structures, machines, apparatus, manufacturing processes, to meet the needs of their designed intention; or to forecast their behavior under specific operating conditions; all as respects an intended function, economics of operation or safety to life and property.

**Artisan** is a skilled worker who uses their hands to make or create things that may be functional or strictly for decoration.

**IHS Artisan Fabrication Laboratory** is a facility at the Indiana Area Senior High School available for students and faculty to practice the science of engineering, manufacturing, and fabrication skills. This lab will be utilized by the technology education department to reinforce these skills through problem solving activities and scenarios.

- 600 SCIENCE OF ENGINEERING** (9th - 12th grade) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
Prepares students to understand and apply technological concepts and processes that are the cornerstone for the IASD technology education program. Group and individual activities will engage students in creating ideas, developing innovations, and engineering practical solutions. Technology and engineering content, resources, and laboratory activities will enhance student applications of science, mathematics, and other school subjects in authentic situations. Topics include the use of CADD, manufacturing, prototyping and fabrication.  
\*Recommended as a 9th grade elective.
- 649 CADD (2D/3D)** (9<sup>th</sup> – 12<sup>th</sup> grade) 1st or 2nd semester .50 credit  
This course is an introduction to drafting and design for students interested in learning how to communicate technical information using Computer Aided Drafting and Design (CADD) practices. The latest version of AutoCAD will be used as the students produce two dimensional as well as three dimensional drawings and models. The students will develop a portfolio that documents their competencies in techniques of drawing such as, dimensioning, modeling, and symbol use. During 3D modeling exercises, the students will explore drafting functions including render, section, and multi-view. The students will apply the export option in an effort to gain an understanding of how machines, methods of manufacturing, and prototyping are completed using CADD files. **\*Students are required to have a minimum of a 2.0 grade point average in the Science of Engineering course in order to enroll.** . Students taking this course will be eligible to earn WCCC credit through participation in the IASD College in High School Program.
- 645 MANUFACTURING PROCESSES** (Materials manipulation) (9<sup>th</sup> – 12<sup>th</sup> gr.) 1<sup>st</sup> sem.(2<sup>nd</sup> sem. 9<sup>th</sup> gr.) .50 credit  
Students in this class will learn how to safely and successfully practice operations of manufacturing tools and machines to create products, prototypes and convey solutions for various projects. The students will learn material forming, squaring, and removal processes with high tech cabinetmaking tools such as the CNC router, CNC lathe, laser cutter/engraver, planer, jointer, table saw, miter saw, as well as various sanding, shaping, and drilling tools. Through hands on experiences the students will gain an understanding of operations order, proper layout, time management, and production needs.  
**\*Students are required to have a minimum of a 2.0 grade point average in the Science of Engineering course in order to enroll.**
- 646 ROBOTICS ENGINEERING I** (Functions and applications) (10<sup>th</sup> – 12<sup>th</sup> grade) 2<sup>nd</sup> semester .50 credit  
Robotics I is an introductory course where students will use robots to learn about engineering and engineering problem solving. They will be given introductions to the VEX Robotics Design Systems and Autodesk Inventor. Key STEM principles will be discovered through a process that captures the excitement and engagement of robotics competition. The curriculum is focused on mechatronic principles, programming is not required. Students acquire a basic understanding of many types of robots, how they operate and their application in manufacturing and entertainment. Students will be able to define important terms associated with robots, explain the different types of drive systems, and robotic sensors found in robotics. High tech machines such as 3d printers, and laser cutter engravers will also be incorporated into the course. **\*Students are required to have a minimum of a 2.0 grade point average in the Science of Engineering course in order to enroll.**
- 647 FABRICATION PROCESSES** (Design, materials, product) (9<sup>th</sup> – 12<sup>th</sup> grade) 1st or 2nd semester (2<sup>nd</sup> for 9<sup>th</sup> gr.) .50 credit  
Students in this class will learn how to safely and successfully operate tools and machines to create products, prototypes and convey solutions for various projects. Students will learn print reading, flow process chart development, and safe material handling. Students will use CAD design software, high tech tools and machinery such as the CNC Mill, CNC Lathe, CNC Plasma cutter, gear drive lathes, vertical bandsaw, horizontal bandsaw, welding equipment, milling machine, and various hand tools. Students will manipulate various materials in both a hot and cold form as well as discover basic principles of casting. New technology tools such as 3D printing, graphics vinyl cutting and laser cutting/engraving will also be taught. **\*Students are required to have a minimum of a 2.0 grade point average in the Science of Engineering course in order to enroll in this course.**
- 644 ASPECTS OF ENGINEERING I** (10<sup>th</sup> – 12<sup>th</sup> grade) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
In this class, the students will explore the study of engineering, principles, colleges, and careers. Topics of study will include the engineering aspects of materials, structures, machines, devices, systems, and processes that safely realize a desired objective. Classroom activities will consist of applying technical, scientific, and mathematical knowledge toward; current event topics, problem solving, research, product development, design, building, testing and the redesign of various systems. Students will be required to keep an engineer's journal and develop formal essays as they work individually as well as in small groups on Technology Learning Activities (TLA) **\*Students are required to have a minimum of a 2.0 grade point average in the Science of Engineering course in order to enroll in this course.**

- 651 MANUFACTURING ENGINEERING** (Design, materials, product) (10<sup>th</sup> – 12<sup>th</sup> gr) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
 In this course students will use their processing knowledge to develop a product that demonstrates an understanding of material properties such as, density, grain direction, movement, and strength axis. Preliminary design work such as, sketches, CADD drawings, models, prototypes, and material calculations will be required. Through the design process the students will use the engineering design model to develop solutions to jointery questions and material limitations. Upon completion of the course, students will be able to identify and apply resources found locally and nationally to develop a product that is economical and of sound engineering practices. **Prerequisite: Students are required to have a minimum of a 2.0 grade point average in the Manufacturing Processes course in order to enroll.**
- 652 ROBOTICS ENGINEERING II** (10<sup>th</sup> – 12<sup>th</sup> grade) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
 Robotics Engineering II is a continuation of Robotics Engineering I. This course focuses on the generation of autonomous robots. Students will be introduced to robotic computer programming such as RobotC. RobotC is used to program and operate the VEX robotics systems via a microcontroller. Students will experience a unique learning environment with the use of VEX Cortex, an interactive online video tutorial based robotics program produced by Carnegie Mellon's Robotics Academy. Students will learn introductory level programming, logic and reasoning skills, and engineering processes. Four main robotics categories will be studied; movement, remote control, censing, and engineering. Students will work in teams to design and fabricate an autonomous project. **Prerequisite: Students are required to have a minimum of a 2.0 grade point average in the Robotics Engineering I course in order to enroll.**
- 653 FABRICATION ENGINEERING** (10<sup>th</sup> – 12<sup>th</sup> grade) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
 Students will work collaboratively to plan and design an advanced innovative project with various non-fibrous materials. Project requirements will include CADD drawings / illustrations, individual presentations, as well as developed working prototypes. The study, use, and application of tools, time, materials, and flow process will be emphasized in the creation of this project. Students will identify and apply resources found locally and nationally to develop a product that is economical and of sound engineering practices. **Prerequisite: Students are required to have a minimum of a 2.0 grade point average in the Fabrication Processes course in order to enroll.**
- 654 ASPECTS OF ENGINEERING II** (11<sup>th</sup> – 12<sup>th</sup> grade) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
 This class is a continuation of aspects of engineering I. Students will be members of design teams or clusters, analyze case studies, perform analytical research, and produce real world solutions to problems in various areas of engineering. Topics of study will include the engineering aspects of materials, structures, machines, devices, systems , and processes that safely realize a desired objective. Classroom activities will consist of applying technical, scientific and mathematical knowledge toward; current hot topics in engineering, problem solving, research, product development, design, building, testing and the redesign of various systems. Students will continue to supplement their engineer's journal as well as prepare essays for summative evaluation. **Prerequisite: Students are required to have a minimum of a 2.0 grade point average in the Aspects of Engineering I course in order to enroll.**
- 657 ARCHITECTURAL DRAFTING** (10<sup>th</sup> – 12<sup>th</sup> grade) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
 In this course students will learn the fundamentals of architectural drafting using CAD. The students will use a current version of AutoDesk Architectural Desktop to develop drawings and solutions for a variety of residential projects. Course content will include room and area planning, floor plans, sections, elevations, schedules, and key terminology. The students will learn how architectural drafting implicates specifications for building construction, site selections, footings, foundations, framing, insulation, and interior, and exterior finishes. **Prerequisite: Students are required to have a minimum of a 2.0 grade point average in the CADD course in order to enroll.**
- 658 PARAMETRIC MODELING** (Inventor) (10<sup>th</sup> – 12<sup>th</sup> grade) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
 This advanced study of CADD will focus on drafting and designing with Autodesk Inventor to create complex designs, advanced solid models, assembly presentations, and assembled drawings. The students will gain an understanding of parametric manipulation of models as they develop a portfolio that documents their drafting competencies. An emphasis on choosing appropriate materials for design(s) and design solutions will be stressed. Students will have the opportunity to export their drawings to various prototyping and manufacturing machines in order to validate solutions. **Prerequisite: Students are required to have a minimum of a 2.0 grade point average in the CADD course in order to enroll.**
- 667 ARCHITECTURAL DESIGN** (10<sup>th</sup> – 12<sup>th</sup> grade) 1<sup>ST</sup> or 2<sup>nd</sup> semester .50 credit  
 This course is a continuation of Architectural drafting. Students will practice pre-design exercises as they use their drafting skill set to design a full sheet set of plans for a single-family residence. The project will contain the following drawings: foundation, floor plans, interior elevations, exterior elevations, window and door schedules, sections, framing plans, electrical plans and a plot plan. A current version of Architectural Desktop will be the primary drafting program used, but other architectural drafting programs such as Revit will be explored during the progression of this course. **Prerequisite: Students are required to have a minimum of a 2.0 grade point average in the CADD course and the Drafting Design course in order to enroll.**

**668 ENGINEERING DRAWING** (Inventor) (10<sup>th</sup> – 12<sup>th</sup> grade) 1<sup>st</sup> or 2<sup>nd</sup> semester .50 credit  
 In this course, students will use Autodesk Inventor to design solutions to provided situations while practicing problem solving models. Students will learn reverse engineering by creating modifications to various products, precision parts, and detailed assembly models. Students will discover how to apply engineering design, scientific principles, and engineering analysis to solve structured and unstructured problems using software based and 3D printed models. Individual and teamwork will be emphasized throughout the course. **Prerequisite: Students are required to have a minimum of a 2.0 grade point average in the CADD course and the Parametric Modeling course in order to enroll.**

**669 INDEPENDENT STUDY / R&D** (senior career seminar) (11th – 12th grades) 1st or 2nd semester .50 credit  
 This course is designed for Junior and Senior students who have successfully mastered concepts pertaining to their discipline of interest. Students will independently develop and complete projects under the supervision of an instructor utilizing the current technology education resources such as tools, machines, AutoCad, Architectural desktop, Revit, Inventor, and RobotC / Cortex. This is a self guided, independent study course for motivated students. Each student will be required to maintain a journal, and must have mastered technical concepts from previous aligned courses. **Prerequisite: Students are required to have a minimum of a 2.0 grade point average in the final level of the technology education area they choose to study independently in order to enroll.**

### **WORLD LANGUAGES**

The curriculum of all languages reflects the national standard in communication, cultures, connections, comparisons and communities. All courses within the world languages department are elective course offerings open to all students. Since foreign language learning is developmental, it is necessary that students have an average of 2.0 to proceed to the next level. Students with less than a 2.0 average may repeat the same level for high school credit. However, a cumulative total of only one credit will be awarded for successful completion of any repeated courses. **Please note: If a university has a requirement of three years of a foreign language, this refers to students passing three levels of the same foreign language.**

### **FRENCH**

**130 FRENCH I** (9<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 Credit  
 French I emphasizes the development of all four language skills by using the sound system along with reading and writing. By listening, imitating, and repeating oral and written materials, students become familiar with basic French phrases, sounds, grammatical structures and culture. Students are then asked to synthesize the structure and vocabulary in activities that stress language and communication.

**131 FRENCH II** (9<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 credit  
 The major goals of this course are the development of oral proficiency, reading skill, writing skill, cultural awareness, and continuing formal grammar study. Each lesson includes reading or dialogue, cultural notes, and activities that stimulate conversation and speaking abilities. The student workbook provides exercises to develop these four basic skills. Recorded exercises provide practice in listening and speaking skills.

**132 FRENCH III** (10<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 credit  
 The goals of this course are to continue development in oral proficiency, reading and writing skills, as well as formal grammar study and cultural awareness. The text and student workbook provide practice activities. The year culminates with the study of two full-length films.

**133 FRENCH IV** (11<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 credit  
 This course continues to provide extensive practice in all of the basic language skills. Many opportunities are provided for language development through projects, films and authentic texts. An intermediate-level French classic novel is studied. Students have an opportunity to participate in the French Exchange by traveling to France or hosting/socializing with the French students who visit Indiana. **Students taking this course will be eligible to earn WCCC credit through participation in the IASD College in High School Program.**

**134 FRENCH V** (12<sup>th</sup> Grade) full year 1.00 credit  
 This course continues to provide extensive practice in all of the basic language skills. Many opportunities are provided for language development through projects, films, frequent oral presentations of current events and authentic texts, Two intermediate-level French classic novels are studied. Students have an opportunity to participate in the French Exchange by traveling to France or hosting/socializing with the French students who visit Indiana.

### **GERMAN**

**135 GERMAN I (Pending approval for 2019-2020)** (9<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 Credit  
 German I emphasizes the development of all four language skills: listening, speaking, reading, and writing. By listening, imitating, and repeating oral and written materials, students become familiar with basic German phrases, sounds, grammatical structures and culture. Students will learn to tell about themselves and their friends, their age, what they look like, where they're from, their family, classes and teachers, favorite food, pastimes, and sports and games.



- 136 GERMAN II** (9<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 credit  
 German II continues to build on the foundation established in German I with the aim of improving the skills acquired at the beginning level. The emphasis of this course is to improve the student's proficiency in all the communication skills. New vocabulary and more complex grammar principles are added.
- 137 GERMAN III** (10<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 credit  
 German III continues to provide the opportunity for students to practice and improve their skills. Students are encouraged to use the target language as much as possible during class. Topics of interest to teenagers are developed through a variety of activities, which include audio and video components. Students may also be able to participate in an exchange program to Germany by either going to Germany and/or hosting a German Exchange student.
- 138 GERMAN IV** (11<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 credit  
 The major emphasis of the course is placed on continual improvement of skills in reading, writing, speaking and listening. In addition to grammar and vocabulary exercises, readings of various difficulties, projects and feature length films are included. Students can express their own ideas. Students may be given the opportunity to participate in an exchange program to Germany, which provides additional reinforcement of learned language skills.
- 139 GERMAN V** (11<sup>th</sup> - 12<sup>th</sup> grades) full year 1.00 credit  
 Emphasis is placed on fine-tuning the basic language skills acquired in the first four years. Students develop greater linguistic proficiency, expand to a higher level of vocabulary, think critically and take risks when expressing themselves in the target language. Students may be given the opportunity to participate in an exchange program to Germany.
- SPANISH**
- 145 SPANISH I** (9<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 credit  
**87145 OL SPANISH I**  
 Students will learn to tell about themselves and their friends, their age, what they look like, where they're from, their family, classes and teachers, favorite food, pastimes, and sports and games. They will tell time, talk on the phone, order a meal, and write a letter. Authentic materials such as newspapers, videos, magazines, and online resources will supplement the text and workbooks. Much time is devoted to listening comprehension and speaking, as well as reading and writing.
- 146 SPANISH II** (9<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 credit  
**87146 OL SPANISH II**  
 This course will continue to stress the skills acquired in Spanish I. Students will learn about topics that will help them prepare to travel in the Spanish-speaking world, such as navigating through an airport, buying train tickets, and reserving hotels. Students will enter into a more extensive study of grammar. Authentic materials such as newspapers, videos, magazines, and online resources will supplement the text and workbooks.
- 147 SPANISH III** (9<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 credit  
**87147 OL SPANISH III**  
 The major goals in the third level are to continue to build skills in listening, speaking, reading, and writing, as students amplify their knowledge of Hispanic culture. Students will read about and discuss topics of daily life and find similarities and differences between Hispanic and American cultures. Students may participate in the study abroad trip.
- 148 SPANISH IV** (9<sup>th</sup> – 12<sup>th</sup> grades) full year 1.00 credit  
 The class activities at level IV place great emphasis on meaningful oral communication in Spanish. Besides improving their conversational skills, students will be exposed to all grammar tenses while they strive to polish their grammar. They will write a number of compositions and read from authentic Spanish sources. The focus of each unit is on a specific Spanish-speaking country or group of countries. . Students may participate in the study abroad trip. **Students taking this course will be eligible to earn WCCC credit through participation in the IASD College in High School Program.**
- 150 AP SPANISH** (12<sup>th</sup> grade) full year/weighted 1.00 credit  
 This course is for selected twelfth grade students and fulfills one elective course requirement. This is a college-level course designed to prepare students to place into Spanish courses upon their arrival at a university of his/her choice. All members of the class are expected to take the Advanced Placement exam given in May at their own expense (approximate \$93.00 fee). There will be no final examination requirement for this course. The AP Spanish Language and Culture Course is a rigorous course taught almost exclusively in Spanish that requires students to improve their proficiency across the three modes of communication (the interpersonal, interpretive and presentational). The course focuses on the integration of authentic resources including online print, audio, and audiovisual resources, as well as traditional print resources that include literature, essays, and magazine and newspaper articles with the goal of providing a rich, diverse learning experience. Students communicate using rich, advanced vocabulary and linguistic structures as they build proficiency in all modes of communication toward the pre-advanced level. The following are required in order to enroll in this course: -One teacher recommendation, either from the Spanish III or IV instructor -Successful completion of the previous year's required Spanish IV course (minimum 3.0 recommended average)

## **IDEAL – INDIANA DIGITAL EDUCATION ACADEMY FOR LEARNING**

IDEAL provides an “in-house” online option for Indiana Area School District students. Whether a student wishes to pursue a single online course or to take all courses online, IDEAL offers an array of options designed to meet students’ needs. The IDEAL program aims to provide students with the flexibility and convenience of a quality virtual education, in addition to the services traditionally offered in a school building, and to do so in a way that affords students “the best of both worlds.”

All students who enroll in coursework through the IDEAL program are encouraged to make use of the technological and human resources available in the high school’s recently renovated online “learning lab.” Any building-based student who chooses to enroll in IDEAL courses will be scheduled for an “Online Learning” class period in the IDEAL Lab. During the student’s Online Learning period, the student will be expected to work on his/her online course. If a student needs assistance with online coursework, both a subject teacher and the IDEAL program’s paraprofessional are present in the IDEAL Lab (throughout the school day) to answer students’ questions. All online course instructors/facilitators are employed in Indiana Area School District schools, and as such are available to meet “in person” with students and to provide an array of personalized support services.

All students who are enrolled in online courses are afforded the same curricular and extra-curricular opportunities as are students enrolled in building-based classes. Students who are required to take state-mandated Keystone Examinations and other standardized examinations can take those exams with their virtual and building-based peers and do so in a school environment with which they are familiar. Students who meet school district-mandated eligibility requirements also have the opportunity to enroll in coursework at Indiana County Technology Center (ICTC), Indiana University of Pennsylvania (IUP), and Westmoreland County Community College.

The IDEAL program’s goal is to not only offer students the education they need to prepare for life in the twenty-first century, but to do so on an individualized, personalized level.

\*Courses that are available in an online format are denoted with a separate course number and the prefix “OL” precedes the course name.

### **Indiana Area Senior High School Scheduling Information**

#### **Indiana Area School District College in High School Course:**

The Indiana Area Senior High School is pleased to bring to the parents/guardians and students the College in High School (CHS) program. Students are provided an opportunity to take courses in the Indiana Area School District while earning college credit from either Westmoreland County Community College or Mount Aloysius at a greatly reduced cost per credit. Earned college credits may be transferable to many colleges and universities. Please take a minute to peruse this site to get up-to-date information about this great opportunity!

#### **Eligible Courses and Partnerships**

Indiana Area Senior High School is working in conjunction with Mount Aloysius (MA) and Westmoreland County Community College (WCCC) to offer college credit for pre-qualified high school courses at a greatly reduced tuition rate. Your child may qualify if they are enrolled in the courses indicated below.

The following Indiana Area Senior High School courses are eligible for CHS credit at the colleges indicated:

- Pre-Calculus and Honors Pre-Calculus (MA & WCCC)
- Chemistry and Honors Chemistry (MA & WCCC)
- Creative Writing (WCCC)
- French IV (WCCC)
- Spanish IV (WCCC)
- Accounting II (WCCC)
- Anthropology (WCCC)
- CADD (WCCC)

Students interested in being considered for CHS credit must meet certain eligibility criteria. Mount Aloysius and Westmoreland County Community College have similar criteria so please consider carefully which college best fits you and your child's needs.

If your son/daughter meets the criteria and is interested, please talk with him/her about the benefits of earning early college credit for courses taken in the Indiana Area Senior High School with IASHS instructors.

### Mt. Aloysius Course Offerings and IHS Teachers

IASD Instructors	IASD Courses	Mt. Aloysius Course	Mt. Aloysius Course Number	Mt. Aloysius Instructor
Dr. Scott Layden	Pre-Calculus	Pre-Calculus	CM 113	TBD
Mrs. Malinda Oesterling	Honors Pre-Calculus	Pre-Calculus	CM 113	TBD
Mr. Phil Palko Ms. Heather Walton Dr. Wilhelmy	Chemistry	Chemistry	CH 101	TBD
Mr. Phil Palko Ms. Heather Walton Dr. Wilhelmy	Honors Chemistry	Chemistry	CH 101	TBD

- Must be a 10th, 11th, or 12th grader
- Must earn a "C" or better in the course
- Must maintain a 3.0-grade point average
- Must attend school regularly

### WCCC Course Offerings and IHS Teachers

IASD Instructors	IASD Courses	WCCC Course	WCCC Course Number	WCCC Instructor
Dr. Scott Layden	Pre-Calculus	College Algebra and/or Pre-Calculus	MTH 157 and/or MTH 158	TBD
Mrs. Malinda Oesterling	Honors Pre-Calculus	College Algebra and/or Pre-Calculus	MTH 157 and/or MTH 158	TBD
Mr. Phil Palko Ms. Heather Walton Dr. Wilhelmy	Chemistry	Introductory Concepts in Chem I	CHM 107	TBD
Mr. Phil Palko Ms. Heather Walton Dr. Wilhelmy	Honors Chemistry	Introductory Concepts in Chem I	CHM 107	TBD
Mr. Larry Nath Mrs. Erin King	Creative Writing	Creative Writing	ENG 165	TBD
Mr. James Dykun	French IV	Beginning French I	FRN 155	TBD
Mr. Brian Henninger	Spanish IV	Beginning Spanish I	SPA 155	TBD
Mr. Eric Brocius	Accounting 2	Accounting I	ACC 155	TBD
Mr. William Doody	Anthropology	Cultural Anthropology	SOC 255	TBD
Mr. Keaton Stants Mr. Mark Rend	CADD	Technical Drafting I	DFT 105	TBD

- Must be an 11<sup>th</sup> or 12<sup>th</sup> grader
- Must earn a "C" or better in the course
- Must maintain a 2.5-grade point average or higher
- Must be on track for graduation

**Must have scored proficient or advanced on Keystone Math or English assessment**

## **DUAL ENROLLMENT:**

Indiana Area Senior High School participates in a Dual Enrollment Program with Indiana University of Pennsylvania and Westmoreland County Community College. Students who meet specific requirements can concurrently attend both the high school and the college/university during their junior or senior year. In order to be considered for the Dual Enrollment Program, juniors and seniors must possess a minimum of a 3.0 cumulative grade point average, an excellent high school attendance and disciplinary history, and have scored at the Proficient Level on Keystone Algebra I, Literature Exams, and Biology Exams. Specific information and registration materials are located in the School Counseling Office. Deadline for registration is June 1 for the fall semester and December 1 for the spring semester.

### **534 SENIOR CAREER SEMINAR (12<sup>th</sup> grade) 1st or 2nd semester 1.50 credit**

The Senior Career Seminar is designed for students looking for practical experience in preparation for careers or educational experiences. Seminar students can be placed in an elementary, secondary school classroom or business/workforce area for the purpose of preparation for post high school experiences. The students will attend the seminar a minimum of three periods each day for a semester or full school year. Participants will explore specific tasks which will vary day to day as the needs of the placement dictate. Additionally, students will meet periodically with a teacher/supervisor to reflect on learning and developing a portfolio. Prospective students must apply for acceptance into the program via an application, a letter of intent that demonstrates dedication, and/or teacher recommendation. Students who are enrolled in this program will remain at the Senior High School on "off days" (days the students are not scheduled to report to their placement). They will use this time to complete other requirements of the seminar. Examples of requirements to be determined by the supervising teacher include, but are not limited to: independent study, college and career exploration, online learning, professional readings and responses, journal and portfolio completion.

# Indiana County Technology Center

## *Program Cluster Areas*

### **AUTOMOTIVE TECHNOLOGIES**

Automotive Technology  
Collision Repair Technology

### **CONSTRUCTION & BUILDING TRADES**

Carpentry  
Heating Ventilation and Air Conditioning  
Masonry

### **ENGINEERING TECHNOLOGIES**

Machining Technology  
Welding Technology

### **INFORMATION TECHNOLOGIES**

Digital Communications  
Graphics and Electronic Media  
Information Technology Services

### **PUBLIC SERVICES**

Cosmetology  
Culinary Arts  
Health Occupations Technology



SOAR (Students Occupationally & Academically Ready) programs prepare today's students for High Priority Occupations: careers that are in high demand for employers, have higher skill needs, and are most likely to provide family sustaining wages. Please visit the ICTC website to link directly to the SOAR website for more details on how your ICTC experience can earn college credit.

### **IMPORTANT ICTC FACTS**

The Indiana County Technology Center is a regional technology center dedicated to providing students with industry-certified technical and academic-enriched career programs. The school provides state-of-the-art equipment within a safe environment.

Through integrated technical and academic curricula, students learn theory and skills providing pathways to post-secondary education and/or employment in high growth and high-demand careers. ICTC graduates are college and career ready.

The curriculum written for each technical program area at the ICTC has been properly aligned with PA Academic Standards in the following four (4) areas: reading/writing, mathematics, science, and career education and work standards.

Learning leadership skills, applying problem-solving skills, developing a positive attitude, and being a team player are some of the tenets of a positive work ethic regularly demonstrated by our staff for our students to emulate.

Students may elect to schedule a one, two or three year experience in any program at the ICTC.

### **ARTICULATION AGREEMENTS:**

ICTC students have the opportunity to gain Advanced Standing at the post-secondary level. Students who complete required competencies in high school will be granted credit through an Articulation Agreement with an approved post-secondary school. Articulation Agreements can save students time and money while earning college credit for completing the expected academic rigor in high school. PA Department of Education (PDE) currently sponsors the SOAR (Students Occupationally & Academically Ready) Program. Information about statewide articulation agreements by individual Program Area can be located by connecting to the following web address: <http://www.collegetransfer.net/Search/PABureauofCTESOARPrograms/tabid/3381/Default.aspx>

### **DUAL ENROLLMENT:**

Pennsylvania Highlands Community College offers the Accelerated College Education (ACE) program at the ICTC. College courses are offered to ICTC students during high school at a reduced tuition rate. Dual Enrollment enables students to apply college credits toward earning an Associate's Degree at Pennsylvania Highlands Community College or transfer to another college of their choice. Upon Graduation, students who completed course work through the Dual Enrollment program not only receive a Diploma, but they also receive a college transcript. Specific information related to Articulation Agreements and any Dual Enrollment Agreements can be found on file in the Student Services Department. Total articulated credits may vary depending on ICTC Program Agreements and/or individual student achievement.

### **ADULT EDUCATION:**

Adult students may attend full-time classes from 8:00 a.m. to 1:30 p.m. Monday through Thursday, if space permits. Federal Financial Aid is available for students who qualify.

### **MISSION**

The mission of the Indiana County Technology Center, an innovative regional career development and technology center, in partnership with our member districts and the community is to provide all learners a safe, caring environment that includes the integration of a challenging technical and academic education with an emphasis on the development of skills which provides pathways to further education and employment in an ever-changing world.

### **SHARED VALUES**

- Each individual has worth and dignity
- Each individual will develop skills for life-long learning
- Educational partners must collaborate to maximize student learning
- Everyone deserves a caring, safe learning environment
- Community involvement is essential
- Technical education is valuable and essential to compete in a global economy
- There are opportunities for success for all learners
- Knowledge is empowerment
- All individuals are provided the opportunity to reach their full potential

### **GOALS**

1. Advocate the critical role of career and technical education for quality education and workforce development.

2. Collaborate and partner with other education/community stakeholders to provide enhanced post-secondary opportunities for student success.
3. Expand and develop quality adult education programs.
4. Increase student achievement through the integration of academic and occupational standards.
5. Integrate technology into the instructional practices and operations of the ICTC.
6. Utilize all resources of the school in an artful manner.

SOAR (Students Occupationally & Academically Ready) programs prepare today's students for High Priority Occupations: careers that are in high demand for employers, have higher skill needs, and are most likely to provide family sustaining wages. Please visit the ICTC website to link directly to the SOAR website for more details on how your ICTC experience can earn college credit.

### **COLLISION REPAIR TECHNOLOGY**

*(Autobody/Collision and Repair Technology/Technician)*

The Collision Repair Technology (CRT) program is designed to instruct students in the development of eye-hand coordination skills and the operation of power and air operated equipment associated with tools and procedures used in the repair of damaged automotive vehicles. Students who are creative, meticulous, proud of their work and fascinated with automobiles will enjoy seeing their reflection in the finish of a CRT project. CRT students learn to apply automotive finishes in a high quality paint booth. They also

learn the art of air brushing and customizing. Students are taught cost estimating, frame straightening, Metal-Inert-Gas (MIG) welding, reshaping metal parts and replacing body component parts. Instruction and "hands on" practice is available to the students in the areas of: MIG welding, plasma cutting, automotive panel replacement, frame and unibody diagnosis, measuring and repair, computerized estimating, automotive paint systems, overall paint and blending procedures. Glass procedures with urethane, gasket sealed glass, fixed and movable replacement procedures.

At the Indiana County Technology Center (ICTC), the CRT program is primarily concerned with preparing students to enter the field of collision repair. Students have the opportunity to learn automotive skills and knowledge, as well as reading, writing, language, math and study skills needed for employment in the field. Qualified second year students have the opportunity to earn a Certificate of Completion in refinishing systems from the PPG Research Center. Senior students have the opportunity to receive a PPG Blue Level Industry Certification after successfully completing a written and performance assessment.

#### **Planned Courses**

Body Shop Safety Practices  
 Detailing  
 Fundamentals of Collision Repair  
 MIG Welding/Resistance Spot Welding  
 Automobile Construction  
 Exterior Panel Repair and Replacement  
 Refinishing  
 Estimating/Damage Analysis  
 Structural Repair  
 Plasma Torch Cutting

**Industry Certifications  
 available to qualified students:**

#### **Academic Courses**

(Recommended & Required  
 for Program Study)

Algebra I  
 Algebra II  
 Geometry  
 Chemistry

#### **Career Opportunities**

Collision Repair Technician  
 Automobile Detailer  
 Collision Estimator  
 Refinish Technician Assistant

### **CULINARY ARTS**

*(Institutional Food Workers)*

Culinary Arts (CART) offers a wide range of career opportunities for those who enjoy preparing exciting cuisines and have an eye toward business ventures. This comprehensive program prepares students for positions in the rapidly-growing food service industry.

The students' education is enhanced by participating in various catering projects and the operation of our full-service restaurant ---- these hands-on learning experiences help students refine table service and dining room management techniques. Career opportunities in restaurants, resorts, country clubs, hotels and motels as well as on cruise ships and airlines are abundant.

According to the National Restaurant Association the food service industry and career opportunities are experiencing rapid growth in all segments of the industry. They expect to employ 12.5 million persons by the end of this year, 10 percent of the total work force in the U.S.

Sanitation is one of the most important areas of concern in the restaurant industry today. In our Culinary Arts program the student can receive their ServSafe Sanitation Certification, a requirement in the food service industry.

### **Planned Courses**

Introduction to Hospitality & Food Service Industry  
Sanitation and Safety  
Business and Math Skills  
Food Preparation  
Garde Manager  
Basic Baking  
Purchasing, Receiving, Inventory and Storage  
Nutrition  
Dining Room Service  
Menu Planning  
Human Relations Skills

### **Academic Courses**

*(Recommended & Required for Program Study)*  
Algebra I  
Algebra II  
Biology

### **Career Opportunities**

Cook  
Pastry Chef  
Kitchen Helper  
Food Service Manager  
Chef  
Baker

## **MASONRY**

*(Mason/Masonry)*

Creativity is a key ingredient leading to success in the Masonry (MA) program. A bricklayer takes units of brick, block, or stone and with a trowel, mortar, skilled hands and an eye for perfection molds them into buildings that will last for generations to enjoy. Just look around--every home, school, mall, church and sidewalk are part of a mason's creative genius.

Masonry may lead students to careers in bricklaying or stone-masonry and cement-masonry. The masonry program also provides an excellent foundation for a future in architecture and architectural engineering or a position as an estimator, a job foreman, landscape designer or even a self-employed mason.

The students may attain an Occupational Safety and Health Administration (OSHA) ten hour training course in "Construction Safety & Health" as well as a training course on a Bobcat VersaHandler Telescopic Fork Lift.

### **Planned Courses**

Development and Manufacture of Masonry Materials  
The Use and Care of Tools and Equipment  
Mortar Mixing, Uses and Strengths  
Construct Masonry Walks, Piers, & Arches  
Cleaning Masonry Work  
Safety Practices

Understanding and Reading Construction Drawings  
Design and Construction of Fireplaces and Chimneys  
Fundamental Use of the Transit and Level  
Estimation of Materials  
Concrete Finishing, Forming, Strengths and Uses  
Laying Brick and Concrete Block

### **Academic Courses**

*(Recommended & Required for Program of Study)*  
Algebra I  
Algebra II  
Chemistry

**Industry Certifications  
available to qualified students:**

### **Career Opportunities**

Bricklayer  
Bricklayer Supervisor  
Cement Mason  
Stonemason  
Estimator  
Building Inspector  
Contractor



## **GRAPHICS AND ELECTRONIC MEDIA** *(Commercial and Advertising Art)*

Graphics and Electronic Media (GEM) should be viewed as an introduction to a complex and constantly changing career field. The software packages and computer technology available today are able to assist in the production of a variety of media formats which previously were outsourced to printers or design agencies.

Students who are motivated by change, technology and creativity find GEM to be the perfect educational setting. They are introduced to the areas of desktop publishing, graphic design, photo editing and illustration. Students learn to use the digital press, large format printer and sign plotter. They are encouraged to enhance their own creativity utilizing the most modern technology available.

The program is designed to allow interested students to bring together many areas of creative graphic design and production technologies. Skilled graphic artists have a creative flair required to produce eye-catching publications as well as the talent and confidence to use up-to-date technology to output their creations.

Graphics & Electronic Media students may obtain the following certifications:

- Adobe Certified Associate-Visual Communication Using Adobe Photoshop (Certiport)
- Adobe Certified Associate-Graphic Design & Illustration Using Adobe Illustrator (Certiport)
- Adobe Certified Associate-Print & Design Media Publication Using Adobe InDesign (Certiport)

### **Planned Courses**

Orientation	Design, Layout and Production
Typography	Safety
Drawing and Illustration	Digital Photography
Professional Practices	Adobe InDesign CC
Color Theory & Application	Adobe Photoshop CC
Digital Imaging	Adobe Illustrator CC

### **Academic Courses**

*(Recommended & Required for Program of Study)*

Algebra I  
Algebra II or Geometry  
Biology  
Physics

### **Career Opportunities**

Graphic Designer  
Desktop Publisher

## **WELDING TECHNOLOGY** *(Welding Technology/Welder)*

Welding has evolved into a sophisticated science and technology. Skills developed at the Indiana County Technology Center's (ICTC) Welding Technology (WT) program are immediately transferable to either a professional career as a welder or as a student enrolled at a community/technical college, university, or other post-secondary institution. Additionally, the curriculum provides excellent preparation for those whose career goals include becoming a welding, mechanical or metallurgical engineer. The ideal candidate for this field should have good mechanical aptitude, eye-hand coordination, imagination and excellent visualization skills.

Students have the opportunity to become a certified welder in accordance with the American Welding Society's D1.1 Structural Steel Code. Qualified students have the opportunity to earn an Industry Certification endorsed by the American Welding Society (AWS). The AWS certification is a professional certificate that is recognized in the welding industry across the country.

### **Planned Courses**

Basic Safe Work Practices  
Safe Fabrication Equipment Operations

**Industry Certifications  
available to qualified students:**

Oxy-fuel Cutting  
Oxy-fuel Welding/Brazing  
Shielded Metal Arc Welding

Gas Metal Arc Welding (MIG)  
Gas Tungsten Arc Welding (Heli-Arc/TIG)  
Metallurgy (Study of Metals)  
Testing & Welding Inspection  
Blueprint Reading

Algebra II  
Chemistry  
Geometry

### **Academic Courses**

*(Recommended & Required for Program of Study)*

Algebra I

### **Career Opportunities**

Arc Welder Apprentice  
Combination Welder Apprentice  
Welder Fitter Apprentice  
Welding Engine  
Experimental Welder (R&D)  
Weld Inspector  
Welding Technician

## **INFORMATION TECHNOLOGY SERVICES**

*(Computer Systems Networking and Telecommunications)*

The Computer Systems Technology (CST) program at the ICTC is designed to provide students with training for relevant certifications in the Information Technology (IT) field. Employers welcome potential employees who have professional credentials or degrees. CST helps students gain the practical experience and knowledge needed to pass entry-level CompTIA's certification exams such as: A+, Network+, Server+, and Security+.

### **A+**

A+ shows a person's proficiency in computer hardware and software upgrades, installation and trouble-shooting skills. Topics include: PC Components, Introduction to Networking, Laptops and Portable Devices, Security, Operating Systems Safety and Environmental Issues, Printers and Scanners, Communication and Professionalism.

### **NETWORK+**

Network+ shows a person's proficiency with basic networking knowledge and skills. Topics include: Networking Fundamentals, Fault Tolerance and Disaster Planning, Internetworking Fundamentals, Recovery, TCP/IP Fundamentals, Troubleshooting and Network Operating Systems.

### **SERVER+**

Server+ shows a person's proficiency with basic server installation, configuration and management and troubleshooting skills. Topics include: Server Hardware, Disaster Planning and Data Recovery, Performance Monitoring, Installation and Configuration of Network Operating Systems, Troubleshooting.

### **SECURITY+**

Security+ shows a person's proficiency with basic computer and network security issues. Topics include: Systems Security, Assessments and Audits, Network Infrastructure, Cryptography and Access Control, Organizational Security.

### **Academic Courses**

*(Recommended & Required for Program of Study)*

Algebra I  
Algebra II  
Biology

### **Career Opportunities**

Basic Network Technician (LAN)	Security Specialist
Advanced PC Technician	Computer/Network Systems Administrator/Manager
System/Network Analyst	A+ PC Technician (Bench/Field, Help Desk)
Computer Systems Engineer	Computer Programmer

## **DIGITAL COMMUNICATIONS**

*(Communications Technologies)*

The Digital Communications program is a dynamic and continuously evolving industry that employs professionals with a wide range of multimedia production skills including digital photography, audio and video recording and editing, digital marketing, and web design. Students enrolled in the Digital Communications program will gain experience and skills in these areas using industry standard equipment and software. Opportunities for students to extend classroom skills into real world projects exist throughout the year through live work and competitive opportunities. Students will gain knowledge and skills in a wide variety of areas including computer applications, design and layout, multimedia, video and audio production, and photography, just to name a few.

Digital Communications students have the opportunity to receive the following certifications:

- Adobe Certified Associate-Visual Communications Using Photoshop
- Adobe Certified Associate-Visual Communications Using Premiere

### **Planned Courses**

Communication Technology Systems  
Basic Computer Applications  
Electronic Communications  
Web Collaboration & Design  
Design & Layout  
Word Processing, Multimedia Presentation  
Photography, Cinematography, & Image Capture  
Video & Audio Production  
Adobe Photoshop CC, Premiere, and After Effects

Industry Certifications  
Available to qualified students:

### **Academic Courses**

Algebra I  
Algebra II  
Biology  
Chemistry

### **Career Opportunities**

Web Page Designer  
Video Editor  
Producer/Director  
Multimedia Artist/Animator  
Camera Operator  
Marketing  
Public Relations

## **MACHINING TECHNOLOGY**

*(Machine Tool Technology/Machinist)*

Machining Technology (MT) is designed to provide each student with the latest technological skills needed for entry in the metalworking occupations. Students have the opportunity to operate state-of-the-art equipment, such as the Computer Numeric Controlled (CNC) machine. They also gain experience with the hands-on operation of standard machine tools used in the industry such as: drill presses, metal saws, lathes, milling machines and surface grinders. Related theory acquaints students with metal cutting applications, material properties, layout work, and CAD/CAM programs. The application of mathematics and blueprint reading is also emphasized throughout the course as an integral part of all completed projects and competencies.

The Indiana County Technology Center's (ICTC) MT program is a fully accredited NIMS (National Institute for Metalworking Skills) training and certification site. Students will have the opportunity to achieve NIMS Level 1 machining credentials as part of the course of study for the MT program.

**Tooling U**, a company of the **Society of Manufacturing Engineers (SME)**, is the leading developer of online training for manufacturing companies and educational institutions. The partnerships between Tooling U and ICTC's MT program is based on a blended-learning solution, which combines online training with hands-on instruction and lab work. Tooling U delivers a portion of the knowledge online while the ICTC MT program delivers the needed skills through hands-on learning.

### **Planned Courses**

Orientation/Safety	Blue Print Reading
Performing Layout Work	CNC Programming
Part Inspection	Machining Math
Bench Work	Machining Essentials
Drill Press Operations	Metal Cutting
Grinding Machine Operations	Part Inspection
Lathes Operations	Quality
Milling Machines Operations	HAAS Lathe Control
Power Saw Operations	HAAS Mill Control
Maintaining Machines and Tools	NIMS Completion
Metallurgy	Live Work/Enrichment
Quality Control Technicians	

Use of Charts & References

### **Academic Courses**

(Recommended & Required for Program of Study)

Algebra I  
Geometry

### **Career Opportunities**

Machinist Apprentice  
Machine Operator  
CNC Technicians

## **COSMETOLOGY**

*(Cosmetology/Cosmetologist, General)*

The Cosmetology field combines talent, art, science and business, leading to a choice of rewarding careers. The Indiana County Technology Center (ICTC) Cosmetology (COSMO) program offers a state-of-the-art facility meeting all licensing requirements of the Pennsylvania State Board of Cosmetology. COSMO students learn anatomy, cosmetic chemistry, bacteriology and sanitation. Students are taught the professional hair, skin, and nail procedures.

In the student-operated patron clinic, COSMO students gain practical work experience and essential communication skills as they cut, style and color the customer's hair; apply skin care treatments and makeup; perform manicures and pedicures; manage the salon including scheduling appointments, ordering supplies; stocking inventory; and selling products.

All areas of this licensed profession are taught for a successful transition to the Cosmetology field. The COSMO program prepares students for the Pennsylvania State Board of Cosmetology License exam and provides a foundation for further training in business management, education, electrolysis, advanced aesthetics and nail technology. Enrolled students will have the opportunity to earn the required 1,250 hours necessary to attain a cosmetology license.

### **Planned Courses**

Identify Principles of Cosmetology Science	
Demonstrate Professional Practices	
Care for Hair and Scalp	
Manicuring	
Perm Wave	<b>Industry Certification available to qualified students:</b>
Chemical Relaxing	
Facials Treatments	
Superfluous Hair Removal	
Hair Cutting	
Hair Coloring	
Hair Styling	

### **Academic Courses**

Algebra I  
Algebra II  
Biology  
Chemistry

### **Career Opportunities**

Cosmetologist  
General and Operations Manager  
Vocational Education Teacher, Post-secondary  
Vocational Education Teacher, Secondary  
Salon Owner  
Nail Technician  
Esthetician  
Manufacturers Sales Representative  
Makeup Artist

## HEATING VENTILATION AND AIR CONDITIONING

*(Heating, Air Conditioning, Ventilation and Refrigeration Maintenance Technology/Technician)*

The HVAC/R program will prepare students for an entry-level position as an installer, maintenance, or service technician dealing with aspects of the residential and commercial field. This career area is always growing, has great monetary potential and will always be in demand.

The students will become adept at working with specialty tools, pressure/temperature/electrical meters, metal fabricating devices, torches, refrigerants, and live HVAC/R equipment.

This program is heavily delivered with hands-on lab projects. The students will reinforce this lab work with classroom theory.

Successful HVAC students have the opportunity to earn the following three industry certifications:

- **Refrigerant Recovery Certification #608**
- **410A Safety Certification**
- **Medic First Aid, CPR, and AED**

### **Planned Courses**

Air Conditioning/Heat Pumps  
Heating: Gas/Oil/Electric  
Electricity  
Electric Motors/Motor Controls  
Sheet Metal Fabrication  
Basic Plumbing  
Indoor Air Quality  
National Electric Code

### **Academic Courses**

*(Recommended & Required for Program of Study)*  
Algebra  
Geometry  
General Science

### **Career Opportunities**

Helper  
Installer  
Installation Foreman  
Service Technician  
Service Manager  
HVAC Company Owner  
Plumber  
Estimator  
Salesperson

## HEALTH OCCUPATIONS TECHNOLOGY

*(Health/Medical Assisting Services, Other)*

Students who are caring, compassionate and possess critical thinking skills should check out Health Occupations Technology (HOT). Statistics from the Pennsylvania Department of Labor & Industry indicate that occupations in health care will continue to experience the highest growth rate.

First year students will complete Basic Anatomy & Physiology as well as Medical Terminology coursework. Second year students will build upon Basic A&P and Medical Terminology while obtaining nursing skills for the Department of Public Welfare (DPW): Personal Care Home Direct Care Staff certification. Third year students may have the opportunity to participate in Cooperative Education and may enroll in up to 9 college credits. Clinical experiences are thread throughout the second and third year. Throughout the Health Occupations Curriculum, students will also obtain three American Heart Association certifications including Basic Life Support/CPR, First Aid, and Bloodborne Pathogens.

### **Planned Courses**

Introduction to Allied Health	HIPAA	CPR/First Aid
Human Needs & Development	Infection Control	Medical Terminology
Common Chronic & Acute Conditions	Resident Rights	Communication Skills
Introduction to Nursing Assistant	Basic Nursing Procedures	Anatomy & Physiology
Mental Health & Social Services	Safety & Emergency Care	Personal Care Procedures
Legal & Ethical Standards of Health Profession		

### **Academic Courses**

*(Recommended & Required for Program of Study)*

Algebra I  
Algebra II  
Biology  
Chemistry

**Industry Certification**  
available to qualified students:

### **Career Opportunities**

Nurse Assistant	Surgical Technician
Medical Assistant	Physician's Assistant
Registered Nurse	Medical Lab Technician
Massage Therapist	Respiratory Therapist
Physical/Occupational	Therapist or Assistant
Pharmacy Technician	X-Ray Technician
EMT or Paramedic	Licensed Practical Nurse

## **CARPENTRY**

*(Carpentry/Carpenter)*

Opportunity for success in the carpentry field is driven by knowledge and ability, enhanced by focused education and training. Students possessing creativity, independence, motivation, pride and enthusiasm for learning may want to explore carpentry as their career.

Students receive instruction in all phases of residential carpentry beginning with design and layout and working through the final stages of interior and exterior finishing and trim installations. Students gain the entry-level foundation skills to enter either immediate employment or post-secondary training allowing them to choose from a variety of other carpentry-related fields. Carpentry-related theory and skills are taught using a competency-based instructional framework requiring students to demonstrate their ability to safely perform specific job-related tasks in order to prepare for the carpentry job market.

Rapid advancement in technology impacts carpentry through improved tools, equipment and materials available. Carpentry students will become proficient in the use of the many new techniques, tools and equipment available in today's technological society. Field trips, on-site project experiences and repeated training in primary skill areas will prepare students for the career of a lifetime.

The students may attain an Occupational Safety and Health Administration (OSHA) ten hour training course in "Construction Safety & Health" as well as a training course on a Bobcat VersaHandler Telescopic Fork Lift.

### **Planned Courses**

Safety Practices	Fasteners
Blueprints, Codes and Building Layout	Roofing
The Use and Care of Hand Tools	Windows and Doors
Siding and Decks	Emerging Technologies
The Use and Care of Portable Power Tools	Concrete Form Construction
Insulation and Wall Finish	Floor Framing
The Use and Care of Stationary Power Tools	Wall and Ceiling Framing
Interior Finish	Temporary Work Platforms
Related Wood and Wood Products	Roof Framing
Stair Framing	

### **Academic Courses**

*(Recommended & Required for Program of Study)*

Algebra I  
Algebra II  
Biology  
Chemistry  
Drafting  
Geometry

### **Career Opportunities**

Carpenter  
Construction Carpenter  
Construction Management  
Carpenter Helper

## **AUTOMOTIVE TECHNOLOGY**

*(Automobile/Automotive Mechanics Technology/Technician)*

To appreciate the complexities of the automotive industry, students will learn various repair procedures to accommodate today's computer-monitored, fuel-efficient, environmentally-friendly automobiles. Specialized training will include: repair and maintenance of internal combustion engines, including ignition, cooling, fuel injection, fuel systems, computer diagnostics, and electrical systems.

Students enrolled in the Automotive Technology (AT) program enjoy the benefits of a fully comprehensive Automotive Service Excellence (ASE) certified program. The course of study, facilities, and program equipment have been evaluated by the National Automotive Technicians Education Foundation (NATEF) and meets the ASE standards of quality for the training of automobile technicians.

Automotive Technology is a field of change. There is unlimited growth opportunity for students willing to pursue the most up-to-date training available in future automotive technologies.

### **Planned Courses**

Safe Use of Tools and Equipment  
General Automotive and Engine Maintenance  
Brakes  
Suspension and Steering Systems  
Electrical/Electronic Systems  
Engine Performance  
Automatic Transmission and Transaxle  
Manual Drive Train and Axles  
Engine Repair  
Heating and Air Conditioning

### **Academic Courses**

*(Recommended & Required for Program of Study)*

Algebra I  
Geometry  
Biology

### **Career Opportunities**

Automobile Technician  
Heavy Duty Truck technician  
Chemist

## **ICTC LEADERSHIP ORGANIZATIONS**

### **Student Challenge Program**

The Challenge Program is a student incentive program designed to build a bridge between students in high school and the business community by providing cash awards for achieving specific goals in high school. High school sophomores, juniors, and seniors are rewarded with cash prizes in the following categories: most community service, best overall Grade Point Average (GPA), best attendance, most improved GPA, and Science Technology Engineering and Mathematics (STEM).

### **National Technical Honor Society (NTHS)**

The goal of the ICTC Chapter of the National Technical Honor Society is to honor student achievement and leadership, promote educational excellence, and enhance career opportunities. Students who maintain a 94% overall grade point average or above at the ICTC and their sending school, show leadership skills, are involved in community service activities, exhibit positive attitude and good citizenship and are recommended by their instructor are invited to be part of the ICTC NTHS.

### **PA Builders Association (PBA) Student Chapter**

With the cooperation and support of the Indiana-Armstrong Builders Association, the students enrolled in the carpentry, heating ventilation & air conditioning, and masonry programs are eligible to become members. The goal of the membership is to maintain high technical and academic standards while exchanging information and experiences with members of the local, state and national builders organizations.

### **SkillsUSA**

SkillsUSA is a partnership of students, teachers and industry representatives, working together to ensure America has a skilled work force. It helps students who are preparing for careers in trade, industrial, technical and skills service occupations to excel. The various SkillsUSA activities help students develop leadership qualities through education, vocational, civic, recreational and social activities. Excellence in scholarship and craftsmanship are developed through the local, state and national SkillsUSA leadership conferences and competition.

