CURRICULUM GUIDE

HERITAGE HILLS HIGH SCHOOL

3644 E CR 1600 N
Lincoln City, IN 47552
812-937-2400
CEEB SAT/ACT Code: 152078

Revised for the 2017-2018 School Year
All information and updates are on the GUIDANCE website at http://hhhs.nspencer.k12.in.us/guidance/curriculum
Additional information from the Indiana Dept. of Education at http://www.doe.in.gov/idoe/parent-portal
TABLE OF CONTENTS
Scheduling policies and procedures................................................................. 2
Retaking a class, Eighth grade classes for credit............................................... 2
Heritage Hills High School Grading Scale....................................................... 3
Diploma Options / End of Course Assessments.............................................. 4
Quantitative Reasoning Courses................................................................. 7
Advanced Placement Courses...................................................................... 7
Industry-Based Certification......................................................................... 7
Dual Credit..................................................................................................... 8
Career and Technical Education .................................................................. 9
Agriculture.................................................................................................... 10
Business, Marketing and Information Technology......................................... 11
Education and Training/Work Based Learning............................................. 13
Engineering, Trade and Industry................................................................. 14
English Language Arts ................................................................................. 16
Fine Arts....................................................................................................... 18
Health, Physical Education and Safety......................................................... 19
Health Science/ Hospitality and Human Services.......................................... 20
Mathematics ................................................................................................ 22
Science ......................................................................................................... 24
Social Studies ............................................................................................. 25
World Languages ......................................................................................... 26

SCHEDULING POLICIES
HHHS has seven class periods per day. A student must select seven classes or a minimum of six subjects if a study hall is
chosen for either one or both semesters. A schedule change may be made under the following circumstances: need of a class
previously failed, time schedule does not allow the class, a teacher recommends the student consider dropping a class or if there
has been a scheduling error. STUDENT REQUESTS FOR SCHEDULE CHANGES MUST BE PRESENTED PRIOR TO
THE START OF EACH SEMESTER. Since a student's subjects are selected after the student, the parents, and counselor have
agreed, there should be few instances when it becomes necessary to drop a course. In any case, this may be done only after
consultation with the teacher, counselor and parent and approval of the administration. A student may be withdrawn from class
for disciplinary reasons, excessive tardies/absences, in which case the student receives an “F” and is placed in a study hall.

SCHEDULING PROCEDURES
Beginning in February, students' schedules are decided for the following year. Because one's educational background is such a
significant determinant for his or her future, much time is devoted to the scheduling process. Information is given to each
student regarding requirements and electives for the coming year. Students are encouraged to discuss their choices with their
parents and teachers. The counselors assist each student individually in planning next year's courses. Incoming freshmen and
their parents attend an evening meeting where high school requirements are explained, with particular emphasis on freshman
requirements and electives. Occasionally a course that is offered is dropped due to insufficient enrollment. In other cases a
second choice has to be made due to a conflict of two or more course requests meeting at the same time. Some courses have
limited number of class seats. If a selection process is necessary to determine which students are enrolled in a particular
program, that selection is based upon student's (1) seniority, (2) attendance records, and (3) background courses with
satisfactory grades. When possible, students are given their first choice in electives.

POLICY FOR RETAKING A CLASS AT HERITAGE HILLS
A student may retake a class for the purpose of improving the understanding of the subject. If a student retakes a class, he will
not receive an additional credit. The class will be listed on the transcript both times the class is taken, and the average of both
grades will be calculated into the cumulative GPA. A class may only be retaken if the initial grade earned is a C- or less.

POLICY FOR EIGHTH GRADERS TAKING A COURSE FOR HIGH SCHOOL CREDIT
The grade, for any class that counts toward a high school diploma, earned in the eighth grade will be recorded on the transcript
and will count in the cumulative GPA unless the student retakes the class during the freshman year of high school.
Heritage Hills High School offers rigorous curriculum in its mission to prepare students for a fulfilling life after high school. Advanced Placement and honors academic courses reflect the rigor required for students preparing to enter into a demanding college or career path. A weighted grading system encourages advanced students to take courses that better suit their capabilities, rewards them for their effort, and allows them to be more competitive with other high school graduates in college admissions and scholarship opportunities.

**How Grade Point Average (GPA) is calculated at Heritage Hills High School.**
A point value is assigned to every grade earned at the end of each semester (traditional 4.0 scale). Those values are then multiplied by the credit value of each course. Those results are then totaled and divided by the total number of credits attempted in the semester. That final number is the student’s GPA. At the end of the semester, an additional .02 is added to the accumulated grade point average for every weighted class taken. The cumulative GPA includes all semester grades in every course the student has completed towards a high school diploma.

**Grading Scale used to calculate Grade Point Average (4.0 Scale)**

<table>
<thead>
<tr>
<th>Grade</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.00</td>
</tr>
<tr>
<td>A-</td>
<td>3.75</td>
</tr>
<tr>
<td>B+</td>
<td>3.50</td>
</tr>
<tr>
<td>B</td>
<td>3.00</td>
</tr>
<tr>
<td>B-</td>
<td>2.75</td>
</tr>
<tr>
<td>C+</td>
<td>2.50</td>
</tr>
<tr>
<td>C</td>
<td>2.00</td>
</tr>
<tr>
<td>C-</td>
<td>1.75</td>
</tr>
<tr>
<td>D+</td>
<td>1.50</td>
</tr>
<tr>
<td>D</td>
<td>1.00</td>
</tr>
<tr>
<td>D-</td>
<td>0.75</td>
</tr>
</tbody>
</table>

**Weighted courses:**

- English 9 Honors
- English 10 Honors
- AP English Language
- AP English Literature
- Spanish IV
- AP German Language and Culture
- Algebra II Honors
- Geometry Honors
- Precalculus
- AP Calculus
- Finite Mathematics
- PLTW: Medical Interventions
- Biology Honors
- Chemistry II
- AP Physics I
- AP Physics II
- Anatomy and Physiology
- PLTW: Biomedical Innovation

**Samples:**

**Student #1** does not take weighted courses for the semester:

Course #1 = A  
Course #2 = A  
Course #3 = A  
Course #4 = A  
Course #5 = B  
Course #6 = B  
Course #7 = Study hall (no points awarded)

GPA Calculation:  
4 x 4 (A = 4 grade points) + 2 x 3 (B = 3 grade points)  
16 + 6 = 22 grade points / 6 courses = 3.667 GPA

Student #1 GPA for the semester is 3.667

**Student #2** takes one weighted course for the semester:

Course #1 = A  
Course #2 = A  
Course #3 = A  
Course #4 = A  
Course #5 = B  
Course #6 = B  
Course #7 = Study hall (no points awarded)

GPA Calculation:
4 x 4 (A = 4 grade points) + 2 x 3 (B = 3 grade points) + .02 for the one weighted course  
16 + 6 = 22 grade points / 6 courses = 3.667 GPA  
Add .02 for the one weighted course.  
Student #2 GPA for the semester is 3.687

**Class Rank:**
The class rank of a grade level is calculated only at the end of every semester. The cumulative GPA’s in each grade level are ranked from highest to lowest to determine the class rank.

**Honor Roll is calculated for each 9 weeks grading period. There is no semester honor roll.**

- Summa Cum Laude 3.80 - 4+
- Magna Cum Laude 3.50 - 3.79
- Cum Laude 3.30 - 3.49

*Both weighted rank and weighted GPA are reflected on the high school transcript.*
## Diploma Options at Heritage Hills High School

### Core 40

### Core 40 With Academic Honors

### Core 40 With Technical Honors

### General Diploma

#### Course and Credit Requirements – 40 total credits

<table>
<thead>
<tr>
<th>Category</th>
<th>Credits</th>
<th>Requirements and Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>English/Language Arts</strong></td>
<td>8 credits</td>
<td>Including a balance of literature, composition and speech.</td>
</tr>
</tbody>
</table>
| **Mathematics**         | 6 credits (in grades 9-12) | 2 credits: Algebra I  
2 credits: Algebra II / Algebra II Honors  
2 credits: Geometry / Geometry Honors  
Students must take a math or quantitative reasoning course each year in high school |
| **Science**             | 6 credits | 2 credits: Biology I / Biology Honors  
2 credits: Chemistry I or Physics I or Integrated Chemistry-Physics  
2 credits: Any additional science course |
| **Social Studies**      | 6 credits | 2 credits: U.S. History  
1 credit: U.S. Government  
1 credit: Economics  
2 credits: World History and Civilization |
| **Directed Electives**  | 5 credits | World Languages  
Fine Arts  
Career and Technical Education |
| **Physical Education**  | 2 credits | (combination of class during school year, class during summer, or participation in sport/dance/cheer/band beyond 9th grade) |
| **Health and Wellness Education** | 1 credit | Preparing for College & Careers (HHHS requirement) |
| **Personal Finance**    | 1 credit | Preparing for College & Careers (HHHS requirement) |
| **Electives**           | 5-6 credits | (College and Career Pathway courses recommended) |

*Diploma options for the Class of 2017 and Beyond*
For the Core 40 with Academic Honors diploma, students must:
- Complete all requirements for Core 40.
- Earn 2 additional math credits (Pre-calculus)
- Earn 6-8 world language credits (German or Spanish)
  (6 credits in one language or 4 credits each in two languages).
- Earn 2 fine arts credits (Art, Band, Chorus, Theater Arts, Student Publications)
- Earn a grade of a "C-" or better in courses that will count toward the diploma.
- Have a grade point average of a "B" (3.0) or better.
- Complete one of the following:
  A. Earn 4 credits in 2 or more AP courses and take corresponding AP exams (See page 7)
  B. Earn 6 verifiable transcripted college credits in dual credit courses from priority course list. (See page 8)
  C. Earn both of the following:
      1. A minimum of 3 verifiable transcripted college credits from the priority course list,
      2. 2 credits in AP courses and corresponding AP exams
  D. Earn a combined score of 1750 or higher on the SAT critical reading, mathematics and writing sections
     and a minimum score of 530 on each
  E. Earn an ACT composite score of 26 or higher and complete written section

For the Core 40 with Technical Honors diploma, students must:
- Complete all requirements for Core 40.
- Earn 6 credits in the college and career preparation courses in a state-approved College & Career Pathway
  and one of the following:
  1. Pathway designated industry-based certification (See page 7), or
  2. Pathway dual credits from the lists of priority courses resulting in 6 transcripted college credits (See page 8)
- Earn a grade of "C-" or better in courses that will count toward the diploma.
- Have a grade point average of a "B" (3.0) or better.
- Complete one of the following,
  A. Any one of the options (A - E) of the Core 40 with Academic Honors
  B. Earn the following scores or higher on WorkKeys; Reading for Information – Level 6, Applied Mathematics – Level 6, and Locating Information-Level 5.
  C. Earn the following minimum score(s) on Accuplacer: Writing 80, Reading 90, Math 75.
  D. Earn the following minimum score(s) on Compass; Algebra 66, Writing 70, Reading 80.
Indiana General High School Diploma (Class of 2017 & Beyond)

The completion of Core 40 is an Indiana graduation requirement. Indiana’s Core 40 curriculum provides the academic foundation all students need to succeed in college and the workforce.

To graduate with less than Core 40, the following formal opt-out process must be completed:

- The student, the student’s parent/guardian, and the student’s counselor (or another staff member who assists students in course selection) must meet to discuss the student’s progress.
- The student’s Graduation Plan (including four year course plan) is reviewed.
- The student’s parent/guardian determines whether the student will achieve greater educational benefits by completing the general curriculum or the Core 40 curriculum.
- If the decision is made to opt-out of Core 40, the student is required to complete the course and credit requirements for a general diploma and the career/academic sequence the student will pursue is determined.

Course and Credit Requirements – 40 Credits required

<table>
<thead>
<tr>
<th>Subject</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English/Language Arts</td>
<td>8 credits</td>
</tr>
<tr>
<td>Mathematics</td>
<td>4 credits</td>
</tr>
<tr>
<td>Science</td>
<td>4 credits</td>
</tr>
<tr>
<td>Social Studies</td>
<td>4 credits</td>
</tr>
<tr>
<td>Physical Education</td>
<td>2 credits</td>
</tr>
<tr>
<td>Health and Wellness</td>
<td>1 credit</td>
</tr>
<tr>
<td>Personal Finance</td>
<td>1 credit</td>
</tr>
<tr>
<td>College and Career Pathway</td>
<td>6 credits</td>
</tr>
<tr>
<td>Flex Credits / Electives</td>
<td>5 – 10 credits</td>
</tr>
</tbody>
</table>

Credits must include literature, composition and speech

- **Mathematics**
  - 2 credits: Algebra I
  - 2 credits: Any math course: Math 10, Algebra II, Geometry or Business Math
  - **General diploma students are required to earn 2 credits in a Math or a Quantitative Reasoning (QR) course during their junior or senior year. QR courses do not count as math credits.**

- **Science**
  - 2 credits: Biology I
  - 2 credits: Any science course
  - **At least one credit must be from a Physical Science or Earth and Space Science course**

- **Social Studies**
  - 2 credits: U.S. History
  - 1 credit: U.S. Government
  - 1 credit: Any social studies course

- **Physical Education**

- **Health and Wellness**

- **Personal Finance**

- **College and Career Pathway**

- **Flex Credits / Electives**
  - Flex Credits must come from one of the following:
    - Additional elective courses in a College and Career Pathway
    - Courses involving workplace learning such as ICE or Internship
    - High school/college dual credit courses
    - Additional courses in Language Arts, Social Studies, Mathematics, Science, World Languages or Fine Arts

ECA/GRADUATION QUALIFYING EXAMS

To graduate from high school, students must also pass the required end of course assessments (ECA) in English 10 and Algebra I. More information about each test and the waiver process is available from a counselor or at [http://www.doe.in.gov/assessment/end-course-assessments-ecas](http://www.doe.in.gov/assessment/end-course-assessments-ecas)
QUANTITATIVE REASONING COURSES
For the Core 40, Academic Honors and Technical Honors Diplomas, students must take a mathematics course or a quantitative reasoning course each year they are enrolled in high school. For the General Diploma, students must earn two credits in a mathematics course or a quantitative reasoning course during their junior or senior year. *Other than the occasional exception, Economics is taken by all seniors and therefore fulfills this requirement. QR courses at HHHS are:

- *Economics*
- Introduction to Accounting
- PLTW: Principles of Engineering
- AP Physics II
- Integrated Chemistry/Physics
- Advanced Life Science, Animals
- Business Math
- PLTW: Civil Engineering and Architecture
- Chemistry I
- Agribusiness Management
- Computer Integrated Mfg.
- AP Physics I
- Chemistry II

ADVANCED PLACEMENT (AP) COURSES
Advanced Placement (AP) tests are offered to high school students through the College Board. Students are able to earn college credit and/or course equivalencies with a sufficient score on an AP exam. Students take AP classes to prepare for the exams, as well as to earn high school credit. All two and four-year Indiana public colleges and universities award college credit that counts toward a degree for scores of 3 or higher. More information: https://apstudent.collegeboard.org. AP courses offered at HH are:

- AP Language and Composition
- AP Literature and Composition
- AP German Language and Culture
- AP Calculus
- AP Physics I
- AP Physics II

INDUSTRY-BASED CERTIFICATION
All students have the opportunity to earn certification through course completion/successful testing in the following courses. Students pursuing a Core 40 with Technical Honors diploma may be required to earn an industry-based certification. It is important to check with the course instructor and counselor for more information on certifications.

<table>
<thead>
<tr>
<th>Heritage Hills Course</th>
<th>College and Career Pathway</th>
<th>Industry Based Certifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Office and Mgmt.</td>
<td>Business, Marketing and Information Technology</td>
<td>Microsoft Office Specialist (MOS) (MITA Bundle - at least 4 of the 7 certificates to be industry based)</td>
</tr>
<tr>
<td>Computer Tech Support</td>
<td>Business, Marketing and Information Technology</td>
<td>A+ Certification</td>
</tr>
<tr>
<td>Network Fundamentals</td>
<td></td>
<td>Network Plus Certification</td>
</tr>
<tr>
<td>Health Science Education</td>
<td>Health Science</td>
<td>Indiana State Certified Nursing Assistant (CNA)</td>
</tr>
<tr>
<td>Intro to Engineering, Principles of Engineering, CIM, CEA</td>
<td>Engineering, Trade and Industry</td>
<td>Project Lead the Way End-of-Course Assessments (bundle of at least 3 course ECA’s – minimum score 4)</td>
</tr>
<tr>
<td>Welding Technology (Tell City)</td>
<td></td>
<td>CPR (CPR is not industry-based for THD)</td>
</tr>
<tr>
<td>Automotive Services Technology</td>
<td></td>
<td>WELD 206 Stick Certification</td>
</tr>
<tr>
<td>Culinary Arts and Hospitality I</td>
<td>Hospitality and Human Services</td>
<td>WELD 272 MIG Certification</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WELD 273 TIG Certification</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Automotive Service Excellence Certification (ASE)</td>
</tr>
</tbody>
</table>

ServSafe (ServSafe is not industry-based for THD)
**DUAL CREDIT/ DUAL CREDIT PRIORITY COURSES**

Dual credit courses allow a student to earn both high school and college credit from the college or technical school from which the course is articulated. At HH, the colleges that grant the dual credits are listed below. Each college processes dual credit differently. The dual credit information is presented to the students by the HHHS teacher at the beginning of the semester. It is the responsibility of the student to check with his/her intended college program to make sure the credit will transfer, as either a required course or as an elective. The student can also check www.TransferIN.net for dual credit Q&A. The list of dual credit courses may change, and so students should ask a counselor or the course instructor about the availability of the course, the application process and current cost. Students who are eligible for free/reduced lunch may be able take dual credit courses free of charge. *To qualify for dual credit for USI, OCU and VU, a student must be a Junior or Senior.* *A course marked with an asterisk indicates that the course is on the “Dual Credit Priority Courses” list. AHD and THD students may need to take up to six dual credits from the priority list.*

<table>
<thead>
<tr>
<th>High School Course/Number</th>
<th>College granting the DC</th>
<th>Credits</th>
<th>College Course Number</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ENGLISH / LANGUAGE ARTS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AP Language and Composition/1056</td>
<td>University of Southern Indiana</td>
<td>3 credits</td>
<td>ENGL 101</td>
</tr>
<tr>
<td>AP Literature and Composition/1058</td>
<td>University of Southern Indiana</td>
<td>3 credits</td>
<td>INTL 101</td>
</tr>
<tr>
<td>*Adv. Speech &amp; Communication/1078</td>
<td>Oakland City University</td>
<td>3 credits</td>
<td>Speech 101</td>
</tr>
<tr>
<td><strong>MATHEMATICS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Pre-Calculus/Trigonometry/2564</td>
<td>University of Southern Indiana</td>
<td>4 credits</td>
<td>MATH 101</td>
</tr>
<tr>
<td>*Advanced Mathematics (Finite)/2544</td>
<td>Vincennes University</td>
<td>3 credits</td>
<td>MATH 101</td>
</tr>
<tr>
<td><strong>SCIENCE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Chemistry II/3066</td>
<td>University of Southern Indiana</td>
<td>4 credits</td>
<td>CHEM 101</td>
</tr>
<tr>
<td>*Anatomy and Physiology/5276</td>
<td>Vincennes University</td>
<td>3 credits</td>
<td>BIOL 101</td>
</tr>
<tr>
<td>PLTW: Biomed/5215,5216,5217,5219</td>
<td>IUPUI, Ivy Tech (Bloomington)</td>
<td>12 credits</td>
<td>PLTW 101</td>
</tr>
<tr>
<td>Environmental Science/3010</td>
<td>University of Southern Indiana</td>
<td>3 credits</td>
<td>BIOL 101</td>
</tr>
<tr>
<td><strong>SOCIAL STUDIES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*US History/1542</td>
<td>Oakland City University</td>
<td>3 credits</td>
<td>HIST 101</td>
</tr>
<tr>
<td>*Psychology/1532</td>
<td>Oakland City University</td>
<td>3 credits</td>
<td>PSY 101</td>
</tr>
<tr>
<td>*US Government/1540</td>
<td>Oakland City University</td>
<td>3 credits</td>
<td>GOV 101</td>
</tr>
<tr>
<td><strong>BUSINESS, MARKETING AND INFORMATION TECHNOLOGY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Introduction to Accounting/4524</td>
<td>Vincennes University</td>
<td>3 credits</td>
<td>ACCT 101</td>
</tr>
<tr>
<td>*Administrative and Office Mgmt/5268</td>
<td>Vincennes University</td>
<td>3 credits</td>
<td>MGMT 101</td>
</tr>
<tr>
<td>*Principles of Bus. Mgmt/4562</td>
<td>Vincennes University</td>
<td>3 credits</td>
<td>MGMT 101</td>
</tr>
<tr>
<td>*Principles of Marketing/5914</td>
<td>Vincennes University</td>
<td>3 credits</td>
<td>MGMT 101</td>
</tr>
<tr>
<td>*Interactive Media/5232</td>
<td>Vincennes University</td>
<td>3 credits</td>
<td>MGMT 101</td>
</tr>
<tr>
<td>*Computer Tech Support/5230</td>
<td>Vincennes University</td>
<td>3 credits</td>
<td>MGMT 101</td>
</tr>
<tr>
<td>*Networking I/5234</td>
<td>Vincennes University</td>
<td>2 credits</td>
<td>MGMT 101</td>
</tr>
<tr>
<td><strong>WORLD LANGUAGES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spanish III/1/2124</td>
<td>Oakland City University</td>
<td>3 credits</td>
<td>SPAN 101</td>
</tr>
<tr>
<td>Spanish II/2/2124</td>
<td>Oakland City University</td>
<td>3 credits</td>
<td>SPAN 102</td>
</tr>
<tr>
<td>*Spanish IV/1/2126</td>
<td>University of Southern Indiana</td>
<td>3 credits</td>
<td>SPAN 201</td>
</tr>
<tr>
<td>*Spanish IV/2/2126</td>
<td>University of Southern Indiana</td>
<td>3 credits</td>
<td>SPAN 202</td>
</tr>
<tr>
<td><strong>EDUCATION AND TRAINING</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Education Professions/5408</td>
<td>Ivy Tech Community College</td>
<td>3 credits</td>
<td>EDUC 101</td>
</tr>
<tr>
<td><strong>ENGINEERING, TRADE AND INDUSTRY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Welding I/5776</td>
<td>Ivy Tech Community College</td>
<td>6 credits</td>
<td>WELD 101</td>
</tr>
<tr>
<td>*Welding II/5778</td>
<td>Ivy Tech Community College</td>
<td>6 credits</td>
<td>WELD 201</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Institution</td>
<td>Credits</td>
</tr>
<tr>
<td>------------------</td>
<td>--------------------------------------------</td>
<td>-------------------------------------------</td>
<td>---------</td>
</tr>
<tr>
<td>CNST 100, CNST 120</td>
<td>Construction Trades I / 5580</td>
<td>Vincennes University</td>
<td>6</td>
</tr>
<tr>
<td>*Intro. To Engineering Design / 4812</td>
<td>Intro to Design Tech / DESN 101</td>
<td>Ivy Tech Community College</td>
<td>3 credits</td>
</tr>
<tr>
<td>*Principles of Engineering / 4814</td>
<td>Mechanical Graphics / DESN 104</td>
<td>Ivy Tech Community College</td>
<td>3 credits</td>
</tr>
<tr>
<td>*Computer Integrated Manufacturing / 4810</td>
<td>Intro to Robotics / CIMG 102</td>
<td>Ivy Tech Community College</td>
<td>3 credits</td>
</tr>
<tr>
<td>*Civil Engineering and Architecture / 4820</td>
<td>Architectural Design / DESN 105</td>
<td>Ivy Tech Community College</td>
<td>3 credits</td>
</tr>
<tr>
<td>*Automotive Service Technology I / 5510</td>
<td>AUTC 100, 107, 122, 127</td>
<td>University of Northwestern Ohio</td>
<td>10 credits</td>
</tr>
<tr>
<td>*Automotive Service Technology II / 5546</td>
<td>AU 126, AU 127</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**AGRICULTURE**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Institution</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural Resources / 5180</td>
<td>Natural Resources Mgmt / AGRI 115</td>
<td>Ivy Tech Community College</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Plant and Soil Science / 5170</td>
<td>Plant and Soil Science / AGRI 105</td>
<td>Ivy Tech Community College</td>
<td>3 credits</td>
<td></td>
</tr>
<tr>
<td>Animal Science / 5008</td>
<td>Animal Science / AGRI 103</td>
<td>Ivy Tech Community College</td>
<td>3 credits</td>
<td></td>
</tr>
<tr>
<td>Adv. Life Science: Animals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power, Structure and Technology / 5088</td>
<td>Agricultural Mechanization / AGRI 106</td>
<td>Ivy Tech Community College</td>
<td>3 credits</td>
<td></td>
</tr>
<tr>
<td>*Agribusiness Management / 5002</td>
<td>Agribusiness Management / AGRI 102</td>
<td>Ivy Tech Community College</td>
<td>3 credits</td>
<td></td>
</tr>
</tbody>
</table>

**HEALTH SCIENCE**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Institution</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Science Education I / 5282</td>
<td>Intro to Health Careers / HLHS 100</td>
<td>Ivy Tech Community College</td>
<td>3 credits</td>
<td></td>
</tr>
<tr>
<td>Medical Terminology / 5274</td>
<td>CNA Preparation / HLHS 107</td>
<td></td>
<td>+5 if attend Ivy Tech</td>
<td>3 credits</td>
</tr>
</tbody>
</table>

**HOSPITALITY AND HUMAN SERVICES**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Institution</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Culinary Arts and Hospitality I</td>
<td>Sanitation and First Aid / HOSP 101</td>
<td>Ivy Tech Community College</td>
<td>3 credits</td>
<td></td>
</tr>
</tbody>
</table>

**CAREER AND TECHNICAL EDUCATION PROGRAMS**

The Patoka Valley Career and Technical Cooperative is a cooperative effort by North Spencer County School Corporation, Northeast Dubois, Southeast Dubois, Southwest Dubois, Pike County, East Gibson, and Greater Jasper Consolidated School Corporations to provide high school students with an opportunity to select areas of learning which provide them with career experiences and transferable skills to postsecondary institutions such as colleges and apprenticeship programs. Career Preparation courses and their locations for 2017-2018 are the following:

**Taught at Heritage Hills High School:**
- Automotive Services Technology I and II
- Networking I
- Computer Tech Support
- Work Based Learning (Internship and ICE, Education Professions)

**Taught off campus:**
- Health Science Education, Tell City High School and Jasper (must do HOSA at Jasper for Pre-Pharmacy)
- Medical Terminology, Tell City
- Welding Technology I and II, Ivy Tech Tell City
- Culinary Arts and Hospitality, Tell City and Northeast Dubois HS
- Construction Trades I, Tell City
- Early Childhood Education and Services, Pike Central
- Precision Machine Technology, Pike Central

Students provide their own transportation to and from off-campus programs. Ask a Counselor for more information about shared programs. More information [http://patokavalleycooperative.blogspot.com/](http://patokavalleycooperative.blogspot.com/).
COURSE DESCRIPTIONS

AGRICULTURE

COLLEGE AND CAREER PATHWAYS:

<table>
<thead>
<tr>
<th>AGRIBUSINESS</th>
<th>LIFE SCIENCES</th>
<th>ANIMAL SCIENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intro to Ag, Food &amp; Natural Res</td>
<td>Introduction to Agriculture, Food &amp; Natural Resources</td>
<td>Animal Science</td>
</tr>
<tr>
<td>Power, Structure &amp; Technology</td>
<td></td>
<td>Adv Life Sci/Animals</td>
</tr>
<tr>
<td>Agribusiness Mgmt.</td>
<td>Supervised Ag Experience SAE</td>
<td>PLANTS &amp; SOILS</td>
</tr>
<tr>
<td>Supervised Ag Experience SAE</td>
<td></td>
<td>Plant &amp; Soil Science</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NATURAL RESOURCES</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Natural Resource</td>
</tr>
</tbody>
</table>

The National FFA Organization

The National FFA Organization is the leadership student organization that is an integral part of the instruction and operation of a total agricultural education program. As an intra-curricular organization and essential component of the total program, the local agricultural education teacher(s) serve as the FFA chapter advisors. The many activities of the FFA parallel the methodology of the instructional program and are directly related to the occupational goals and objectives. As an integral part of the instructional program, district and state level FFA activities provide students opportunities to demonstrate their proficiency in the knowledge, skills and aptitudes they have acquired through the agricultural science and agricultural business program(s). Agricultural education students demonstrating a high degree of competence in state level FFA activities are highly encouraged to represent their local communities, districts and state by participating in national FFA activities. Instructional activities of the FFA require participation by the agricultural science and agriculture business education students as an integral part of an agricultural education course of instruction and, therefore, may be considered an appropriate use and amount of the allotted instructional time.

5056 INTRO. TO AGRICULTURE, FOOD & NATURAL RESOURCES (9-10) (2 semester course for 2 credits)

This course is recommended as a prerequisite for all other agricultural classes. The nature of this course is to provide students with an introduction to careers and the fundamentals of agricultural science and business. Topics include: agricultural literacy, plant/soil science, environmental science, horticulture and landscape management, biotechnology, ag science, business tools and equipment, basic principles of and employability in the agricultural/horticultural industry, basic agribusiness principles and skills, developing leadership skills in agriculture, and supervised experience in agriculture and horticulture purposes and procedures. Student learning objectives are defined. Instruction includes not only agriculture education standards but many academic standards are included through the use of “hands-on” problem-solving individual and team activities.

5180 NATURAL RESOURCES (10-12) (2 semester course for 2 credits)

Students learn career opportunities in natural resource management and related industries, understanding forest ecology importance, recognizing trees and their products, tree growth and development, forest management, measuring trees, timber stand improvement and urban forestry, soil features, erosion and management practices, conservation practices, water cycles, uses, quality standards, reducing water pollution, conducting water quality tests, watersheds, and its importance to natural resource management, hazardous waste management, native wildlife, waterfowl, wetlands, and fish management, topography map use, management of recreational areas, game bird and animal management, outdoor safety, and weather. “Hands-on” learning activities help students investigate areas of environmental concern including: identification and management of ecosystems, natural succession identification, natural communities, recycling and management of waste in the environment, soil conservation management practices, land uses, and air quality. This course may be taken for dual credit through Ivy Tech, Natural Resources Management/AGRI 115.

5170 PLANT AND SOIL SCIENCE (10-12) (2 semester course for 2 credits)

Plant and Soil Science provides students with opportunities to participate in a variety of activities including laboratory work. Topics covered include: the taxonomy of plants, the various plant components and their functions, plant growth, plant reproduction and propagation, photosynthesis and respiration, environmental factors affecting plant growth, integrated pest management plants and their management, biotechnology, the basic components and types of soil, calculation of fertilizer application rates and procedures for application, soil tillage and conservation, irrigation and drainage, land measurement, grain and forage quality, cropping systems, precision agriculture, principles and benefits of global positioning systems and new technologies, harvesting, and career opportunities in the field of plant and soil science. This course may be taken for dual credit through Ivy Tech, Plant and Soil Science/AGRI 105.
5170 **ANIMAL SCIENCE**  (10-12)  (2 semester course for 2 credits)
In this course, students participate in a large variety of activities and lab work including real and simulated animal science experiences and projects. Areas of study may be applied to both large and small animals. Topics to be addressed include: anatomy and physiology, genetics, reproduction and biotechnology, nutrition, aquaculture, careers in animal science, animal health, environmental requirements, and management practices for the care and maintenance of animals. *This course may be taken for dual credit through Ivy Tech, Animal Science/AGRI 103.*

5088 **POWER, STRUCTURE AND TECHNOLOGY I and II**  (11-12)  (2-4 sem course for 2-4 credits)
This is a one to two year lab intensive course in which students develop an understanding of basic principles of selection, operation, maintenance, and management of equipment in concert with utilization of safety and technology. Topics include: small engine repair, power transfer systems including hydraulic and, pneumatic systems, metal fabrication/welding, concrete, wood, metal, electricity and electronics, surveying, precision farming equipment, remote sensing technology and global positioning systems equipment, tillage, planting, irrigation, spraying, grain and forage harvesting, feed and animal waste management systems, agricultural industry communications and customer relations, safety and safety resources, career opportunities in the area of agricultural mechanization and employability skills. Students may take this course for two years, in order to receive additional instruction in this area. *This course may be taken for dual credit through Ivy Tech, Agricultural Mechanization/AGRI 106.*

5002 **AGribusiness Management**  (QR Course)  (11-12)  (2 semester course for 2 credits)
This course presents the concepts necessary for managing an agriculture-related business from a local and global perspective. Concepts covered in the course include: exploring careers in agribusiness, global visioning, applying E-commerce, risk management, understanding business management and structures, entrepreneurship, the planning, organizing, financing, and operation of an agribusiness, economic principles, credit, computerized record keeping, budgeting, fundamentals of cash flow, federal, state, property and sales tax, insurance, cooperatives, purchasing, the utilization of information technology in agribusiness, marketing agricultural products, developing a marketing plan, advertising and selling products and services, understanding consumers and buying trends, agricultural law applications and employability skills. *This course may be taken for dual credit through Ivy Tech, Agribusiness Management/AGRI 102.*

5228 **Supervised Agricultural Experience**  (9-12)  (summer course for 1-3 credits)
Supervised Agricultural Experience (SAE) is designed to provide students with opportunities to gain experience in the agriculture field(s) in which they are interested. Students should experience and apply what is learned in the classroom, laboratory, and training site to real-life situations. Students work closely with their agricultural science teacher, parents, and/or employers to get the most out of their SAE program. This course is taken during the summer. See the Agriculture instructor for more information.

5070 **Advanced Life Science, Animals**  (QR course)  (11-12)  (2 semester course for 2 credits)
Prerequisite: Biology I, Integrated Chemistry/Physics or Chemistry I. This course integrates biology, chemistry, and microbiology in an agricultural context. Students will formulate, design, and carry out animal-based laboratory and field investigations. Students investigate key concepts that enable them to understand animal growth, development and physiology as it pertains to agricultural science. This course stresses the unifying themes of both biology and chemistry as students work with concepts associated with animal taxonomy, life at the cellular level, organ systems, genetics, evolution, ecology, and historical and current issues in animal agriculture. Students completing this course will be able to apply the principles of scientific inquiry to solve problems related to biology and chemistry in highly advanced agricultural applications of animal development.

### BUSINESS, MARKETING AND INFORMATION TECHNOLOGY

#### COLLEGE AND CAREER PATHWAYS

<table>
<thead>
<tr>
<th>ACCOUNTING &amp; FINANCE</th>
<th>ENTREPRENEURSHIP &amp; MANAGEMENT</th>
<th>PC SUPPORT:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles of Bus Management</td>
<td>Principles of Bus Management</td>
<td>Interactive Media</td>
</tr>
<tr>
<td>Intro to Accounting</td>
<td>Intro to Accounting</td>
<td>Computer Science I</td>
</tr>
<tr>
<td>Admin and Office Management</td>
<td>Principles of Marketing</td>
<td>Computer Tech</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MARKETING MANAGEMENT</th>
<th>BUSINESS LAW</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principles of Bus Management</td>
<td>Business Law</td>
</tr>
<tr>
<td>Admin and Office Management</td>
<td>Interactive Media</td>
</tr>
<tr>
<td>Intro to Accounting</td>
<td>INTERACTIVE MEDIA</td>
</tr>
<tr>
<td></td>
<td>Computer Illustrations &amp; Graphics</td>
</tr>
</tbody>
</table>

See the Agriculture instructor for more information.
**Business Professionals of America (BPA)**

BPA is a co-curricular student organization conducted on regional, state, and national levels and tests competency in various areas of business/office occupations. The words “Business,” “Professionals,” and “America” define the focus of BPA. Business: The field for which we prepare our students; emphasizes that we educate our students to work efficiently, not only in an office setting, but also in a wide variety of business situations. Professionals: Our students indicate they join BPA to take advantage of a wide variety of professional development opportunities. America: Symbolizes pride in our country and its free enterprise business system. The Special Recognition Awards Program and the Torch Awards Program are open to participation by all chapters and recognizes outstanding, actively involved members on the local, regional, state, and national levels.

---

**4524 INTRODUCTION TO ACCOUNTING** *(QR course) (10-12) (2 semester course for 2 credits)*

If you are going to have any career related to business or own a business, Accounting is a must! Accounting provides basic instructions for the mechanics of keeping accurate financial records, both in business and personal use. It moves from simple concepts and procedures of accounting that every student must understand to have a maximum opportunity when entering the world of business. Practice sets and problems provide opportunity for students to apply the skills learned. Accounting is required for college business sequence as it provides terminology and procedures basic in understanding the business system. Work will be done with online accounting software. Computerized accounting will be introduced using accounting software from South-Western. *Dual credit (Junior/Senior year) through VU, Basic College Accounting ACCT 100.*

---

**4512 BUSINESS MATH** *(QR course) (11-12) (2 semester course for 2 credits)*

This class explores math skills needed for students to function in today’s personal/business worlds by covering the following topics: figuring gross and net pay, banking services, loans and credit cards, spending wisely, owning a home or car, insurance and investments, personal taxes, and managing people and inventory. Dave Ramsey’s *Foundations in Personal Finance* is an integral part of this course. The course is designed to prepare students for roles as entrepreneurs, producers, and business leaders by developing abilities and skills that are part of any business environment. This course counts for 2 math credits towards the General Diploma.

---

**4562 PRINCIPLES OF BUSINESS MANAGEMENT** *(1) (9-12) (1 semester course for 1 credit)*

This class focuses on the roles and responsibilities of managers as well as opportunities and challenges of ethically managing a business in the free enterprise system. Students will attain an understanding of management, team building, leadership, problem solving steps and processes that contribute to the achievement of organizational goals. The management of human and financial resources is emphasized. *May be taken for dual credit (Junior/Senior year) through VU, Intro. to Business/MGMT 100.*

---

**5268 ADMINISTRATIVE AND OFFICE MANAGEMENT** *(10-12) (2 sem course for 2-6 credits)*

If you like to plan, organize, direct, and control the functions and processes of an organization and work with Microsoft Office, then this class is for you! Students are provided opportunities to develop attitudes and apply skills and knowledge in the areas of business administration, management, and finance. Students will complete projects for teachers and others in the community. It is co-curricular with BPA. To be a BPA officer, one MUST take this class. This class manages the Patriot Place Bookstore and designs merchandise for the store. *This course may be taken for dual credit (Junior/Senior year) through VU, Intro to Computer Concepts/COMP 110. Students have the opportunity to seek an industry-recognized MOS certification.*

---

**5914 PRINCIPLES OF MARKETING** *(10-12) (2 semester course for 2 credits)*

This is a basic introduction to the scope and importance of marketing in the global economy. Emphasis is placed on oral and written communications, problem solving, and critical thinking skills as they relate to advertising/promotion, selling, distribution, financing, marketing-information management, pricing, and product/service management. *This course may be taken for dual credit.*

---

**4560 BUSINESS LAW AND ETHICS** *(10-12) (1 semester course for 1 credit)*

This class provides an overview of the legal system in the business setting. Topics covered include: basics of the judicial system, contract, personal, employment and property laws. Application of legal principles and ethical decision-making techniques are presented through problem-solving methods and situation analyses.

---

**5232 INTERACTIVE MEDIA** *(10-12) (2 semester course for 2 credits)*

Are you creative and enjoy working on the computer, then this class is for you! Interactive Media prepares students for careers in digital media, including: video production, animation/gaming, image editing and web designing. This is project based learning including producing the school video news. *This course may be taken for dual credit (Junior/Senior year) through VU, Web Page Design/COMP 107.*
This course allows students to explore the world of Computer Science. Students will gain a broad understanding of the areas composing Computer Science. Also, there will be focus on computer programming in gaming development using Game Maker.

Computer Tech Support is a two-period course that allows students to explore how computers work. Students learn the functionality of hardware and software components as well as suggested best practices in maintenance and safety issues. Through hands on activities and labs, students learn how to assemble and configure a computer, install operating systems and software, and troubleshoot hardware and software problems. This class maintains the school chrome books. Students may work towards A+ Certification. This course may be taken for dual credit through Vincennes University, Computer Maintenance I /CMET 140 (sem. 1) and CMET 185 (sem. 2).

Prerequisite: Computer Tech Support. This is a two-period course that introduces students to concepts of local and wide area networks, home networking, networking standards using the IEEE/OSI Model, network protocols, transmission media and network architecture/topologies. Security and data integrity will be introduced and emphasized throughout this course. The purpose of this course is to offer students the critical information needed to successfully move into a role as an IT professional supporting networked computers. Concepts covered will include TCP/IP client administration, planning a network topology, configuring the TCP/IP protocol, managing network clients, configuring routers and hubs as well as creating a wireless LAN. Students may work towards Network+ Certification. This course may be taken for dual credit through VU, Computer Telecommunications/ CPNS 150.

Radio and Television I is a two period class that focuses on communication, media and production. Emphasis is placed on career opportunities, production, programming, promotion, sales, performance, and equipment operation. Students will also study the history of communication systems as well as communication ethics and law. Students will develop oral and written communication skills, acquire software and equipment operation abilities, and integrate teamwork skills. Instructional strategies may include a hands-on school-based enterprise, real and/or simulated occupational experiences, job shadowing, field trips, and internships.

EDUCATION AND TRAINING / WORK BASED LEARNING

COLLEGE AND CAREER PATHWAY:
EDUCATION AND EARLY CHILDHOOD
Preparation for College and Careers
Child Development
Advanced Child Development
Education Professions

This course addresses the knowledge, skills, and behaviors all students need to be prepared for success in college, career, and life. The focus of the course is the impact of today’s choices on tomorrow’s possibilities. Topics to be addressed include twenty-first century life and career skills; higher order thinking, communication, leadership, and management processes; exploration of personal aptitudes, interests, values, and goals; examining multiple life roles and responsibilities as individuals and family members; planning and building employability skills; transferring school skills to life and work; and managing personal resources. This course includes reviewing the 16 national career clusters and Indiana's College and Career Pathways, in-depth investigation of one or more pathways, reviewing graduation plans, developing career plans, and developing personal and career portfolios. The class has a project based approach, including computer and technology applications, public speaking, interview application, cooperative ventures between school and community, simulations, and real life experiences. This is a graduation requirement, beginning with the Class of 2017.

Child Development teaches students about real life and is especially relevant for students interested in careers that draw on knowledge of children, child development, and nurturing of children. Addressed are issues of child development from conception/prenatal through age 3: the study of prenatal development and birth; growth and development of children; child care giving and nurturing; and support systems for parents and caregivers. Students are required to participate in the “Baby Think it Over” project. In order to take this project home, students must be passing the class with an 80% or better. This course provides the foundation for continuing and post-secondary education in all career areas related to children and child development.
5360  ADVANCED CHILD DEVELOPMENT  (10-12) (1 semester course for 1 credit)
Pre-requisite: Child Development. This course is for real life as well as for academic enrichment, and/or careers related to knowledge of children and child development. This course addresses issues of child development from age 4 through age 12 (grade 6). It includes the study of professional and ethical issues in child development; child growth and development theories, research, and best practices; child health and wellness; teaching and guiding children; special conditions affecting children; and career exploration in child development and nurturing. This course provides a foundation for continuing and post-secondary education in all career areas related to children, child development, and nurturing of children.

5408  EDUCATION PROFESSIONS  (12) (2 period, 2 sem course for 4 cr)
Education Professions I is a two period class. It provides the foundation for employment in education and related careers and prepares students for study in higher education. An active learning approach that utilizes higher order thinking, communication, leadership, and management processes is recommended in order to integrate suggested topics into the study of education and related careers. The course of study includes, but is not limited to: the teaching profession, the learner and the learning process, planning instruction, learning environment, and instructional and assessment strategies. Exploratory field experiences in classroom settings and career portfolios are required components. A standards-based plan guides the students’ field experiences. Students are monitored in their field experiences by the Education Professionals I teacher. This course may be taken for dual credit through Ivy Tech, Introduction to Teaching/EDUC 101.

5902  INTERDISCIPLINARY COOPERATIVE EDUCATION (ICE)  (12) (2 semester course for 2 credits)
ICE class covers a variety of topics including safety on the job, employer expectations, team work, written and verbal communication, career research, application/interview process, diversities in the workplace, taxation, insurance, banking services, and computer skills. Students will go through a selection process before being permitted in the ICE program. This class must be taken in order to participate in the On the Job Training part of the ICE program. Attendance is vital!

5900  ICE ON-THE-JOB TRAINING  (12) (2 period, 2 sem course for 4 cr)
Students enrolled in ICE class will have 2 periods of released time (usually at the end of the day) to gain job-site experience. They will be placed on-the-job under the direct supervision of experienced employers who serve as the on-the-job trainers in accordance with pre-determined training plans and agreements. The trainer will assist in evaluating the student’s job performance. Attendance is vital! Students will be required to work a minimum of fifteen hours a week to receive two credits per semester. It is highly recommended that students need to have taken at least two classes in a chosen College and Career Pathway.

5974  WORK BASED LEARNING / INTERNSHIP  (12) (2 period, 2 sem course for 4 cr)
This is a two period course that is designed to provide opportunities for students to explore careers that require additional degrees or certifications following high school. The emphasis is on applying skills developed through instruction and on learning new career competencies at the work site. The internship is tailored to the unique needs and interests of the student and is considered a high school capstone experience towards fulfillment of the student’s meaningful future plan. A training agreement outlines the expectations of all parties: the intern, parent/guardian, site supervisor/mentor, internship supervisor, and the school. Students participating in these structured experiences will follow class, school, business/industry/organization, State, and Federal guidelines. Internships may be paid or unpaid and must include a classroom component (via Goggle Classroom). It is highly recommended that students have taken at least two classes in a relevant College and Career Pathway.

ENGINEERING, TRADE AND INDUSTRY

COLLEGE AND CAREER PATHWAYS:

AUTOMOTIVE:
Introduction to Transportation
Automotive Service Technology I
Automotive Service Technology II

CONSTRUCTION:
Introduction to Construction
Power, Structure and Technology
Construction Trades I

WELDING:
Power, Structure & Technology I , II
Welding Technology I, II

ENGINEERING:
Introduction to Engineering Des
Principles of Engineering
Computer Integrated Manufacturing
Civil Engineering & Architecture
4812   PLTW: INTRODUCTION TO ENGINEERING DESIGN  (9-12)  (2 semester course for 2 credits)
This is an introductory course which develops problem solving skills with emphasis placed on the development of three-dimensional solid models. Students will work from sketching simple geometric shapes to applying a solid modeling computer software package. They will learn a problem solving design process and how it is used in industry to manufacture a product. The Computer Aided Design System (CAD) will also be used to analyze and evaluate the product design. The techniques learned, and equipment used, is state of the art and is currently being used by engineers throughout the United States. This course may be taken for six dual credit through Ivy Tech, Intro to Design Technology/DESN 101 and 2D Computer Aided Design/DESN 113.

4814   PLTW: PRINCIPLES OF ENGINEERING (QR Course)  (10-12)  (2 semester course for 2 credits)
Prerequisite: IED. This is a broad-based survey course designed to help students understand the field of engineering and engineering technology and its career possibilities. Students will develop engineering problem solving skills that are involved in postsecondary education programs and engineering related careers, as well as how engineers address concerns about the social and political consequences of technological change. This course can be taken for dual credit through Ivy Tech, Mechanical Graphics/DESN 104.

4810   PLTW: COMPUTER INTEGRATED MANUFACTURING (QR course)  (10-12)  (2 semester course for 2 credits)
Prerequisite: IED. This course applies principles of rapid prototyping, robotics, and automation. It builds upon the computer solid modeling skills developed in Introduction of Engineering Design. Students will use computer controlled rapid prototyping and CNC equipment to solve problems by constructing actual models of their three-dimensional designs. Students will also be introduced to the fundamentals of robotics and how this equipment is used in an automated manufacturing environment. Students will evaluate their design solutions using various techniques of analysis and make appropriate modifications before producing their prototypes. This course may be taken for dual credit through Ivy Tech, Introduction to Robotics, CIMG 102.

4820   PLTW: CIVIL ENGINEERING AND ARCHITECTURE (QR course)  (10-12)  (2 semester course for 2 credits)
Pre-requisite: IED. This course introduces students to the fundamental design and development aspects of civil engineering and architectural planning activities. Application and design principles will be used in conjunction with mathematical and scientific knowledge. Computer software programs should allow students opportunities to design, simulate, and evaluate the construction of buildings and communities. During the planning and design phases, instructional emphasis is placed on related transportation, water resource, and environmental issues. Activities include the preparation of cost estimates as well as a review of regulatory procedures that would affect the project design. This course may be taken for dual credit through Ivy Tech, Architectural Design/DESN 105.

4792   INTRODUCTION TO CONSTRUCTION  (10-12)  (2 semester course for 2 credits)
This course offers hands-on activities and real world experiences related to the skills essential in residential, commercial and civil building construction. Students will be introduced to the history and traditions of construction trades. The student will also learn and apply knowledge of the care and safe use of hand and power tools as related to each trade. In addition, students are introduced to blueprint reading, applied math, basic tools and equipment, and safety. Students will demonstrate building construction techniques, including concrete and masonry, framing, electrical, plumbing, dry walling, HVAC, and painting as developed locally in accordance with available space and technologies. Students learn how architectural ideas are converted into projects and how projects are managed during a construction project in this course. Students study construction technology topics such as preparing a site, doing earthwork, setting footings and foundations, building the superstructure, enclosing the structure, installing systems, finishing the structure, and completing the site. Students also investigate topics related to the purchasing and maintenance of structures, special purpose facilities, green construction and construction careers.

5580   CONSTRUCTION TRADES I  (Tell City HS)  (12)  (2 semester course for 6 credits)
This is a three period yearlong course. It is taken at Tell City HS or as arranged. Included are classroom and lab experiences about the erection, installation, maintenance, and repair of buildings, homes, and structures using assorted materials such as wood, metal, stone, brick, glass, concrete, or composition substances. Instruction covers a variety of activities such as cost estimating, cutting, fitting, fastening, and finishing various materials; the uses of a variety of hand and power tools; blueprint reading and following technical specifications, plastering, masonry, tile setting, dry wall installation, plumbing, residential wiring and roofing. Students develop measuring skills and an advanced understanding of volume and area calculations as well as math skills required for construction of rafters, stair stringers, and complex angles. Scientific principles will be reinforced through weight load exercises, span length determinations, and the study of relative strength. This course may be taken for dual credit through VU, CNST 100, CNST 120.
5088  POWER, STRUCTURE AND TECHNOLOGY I and II  (11-12)  (2 semester course for 2-4 cr)
This is a one to two year lab intensive course in which students develop an understanding of basic principles of selection, operation, maintenance, and management of equipment in concert with utilization of safety and technology. Topics covered include: small engine repair, power transfer systems including hydraulic and, pneumatic systems, metal fabrication such as MIG, TIG and SMAW welding, concrete, wood, metal, electricity and electronics, surveying, precision farming equipment, remote sensing technology and global positioning systems equipment, building agriculture related buildings and structures including greenhouses, tillage, planting, irrigation, spraying, grain and forage harvesting, feed and animal waste management systems, agricultural industry communications and customer relations, safety and safety resources, career opportunities in the area of agricultural mechanization and employability skills. Students may take this course for two years, in order to receive additional instruction in this area.

5776  WELDING TECHNOLOGY I  (Tell City Ivy Tech)  (11-12)  (2 semester course for 2 credits)
5778  WELDING TECHNOLOGY II  (Tell City Ivy Tech)  (12)  (2 semester course for 2 credits)
Welding Technology includes classroom and laboratory experiences that develop a variety of skills detailed in American Welding Society (AWS) Entry Level Guidelines and Certifications. Areas of study include electric welding and flame and plasma cutting. Instructional activities emphasize properties of metals, safety issues, blueprint reading, electrical principles, welding symbols, and mechanical drawing through projects and exercises that teach students how to weld industrial metals in four basic welding positions. Reinforcement of mathematical skills in geometry, precision measurement, and estimation will be part of the daily instruction. Understanding the principles of metallurgy, gases, and materials science is integral to this course. Students may demonstrate proficiency and earn certification(s) through AWS. This course may be taken for dual cred through Ivy Tech. This class is taught at Tell City in the evening. A funding agreement with North Spencer and Tell City allows this course to be taken for partial cost to the student. Ask a counselor for details.

4798  INTRODUCTION TO TRANSPORTATION  (10-11)  (1 period, 2 sem course for 2 cr)
5510  AUTOMOTIVE SERVICE TECHNOLOGY I  (11)  (2 period, 2 sem course for 4 cr)
5546  AUTOMOTIVE SERVICE TECHNOLOGY II  (12)  (3 period, 2 sem course for 6 cr)
The purpose of this sequence of courses is to provide students with a core curriculum to enable them to obtain the knowledge and skills to become technicians in the automotive industry. Having gained these basic competencies, the future technician will study five or more of the eight Automotive Service Excellence or A.S.E. areas: Brakes, Electrical/Electronic Systems, Engine Performance, Suspension and Steering, Engine Repair, Automatic Transmission and Transaxle, Heating and Air Conditioning, and Manual and Drive Train and Axles. Emphasis will be on preparing the students for the technician certification through A.S.E. testing. Included will be both classroom and hands-on job tasks. The student must pass each semester with a “C-” or better average and recommendation from the instructor in order to move to the next semester in Automotive Service Technology. Class size is limited to 18 students and students may be selected through an interview process. This class may be taken for dual credit through Ivy Tech, AMS 100, 107, 122,127 or University of Northwestern Ohio, AU 126, AU 127.

ENGLISH / LANGUAGE ARTS
Eighth grade students are recommended for English 9, English 9 Adv. or English 9 Honors. Criteria used for recommending for high school English are middle school ISTEP and ACHIEVE scores, middle school English grades and, motivation for work outside of school. In general, students continue through this level of English throughout high school. A student may request or be recommended by a teacher to adjust the English level. Note: AP and Honors English classes are rigorous, college preparatory courses. The successful student will have a command of grammar, have strong writing and reading skills and have the work ethic required for independent work. Summer reading is required. It is assigned at the end each school year and is counted for a grade the first day of the fall semester.

10021  ENGLISH 9  (9-12)  (2 semester course for 2 credits)
English 9 provides students with the opportunity to improve and expand their skills in grammar, usage, vocabulary, composition, literature, critical thinking, and communication. Students will explore the writing process and hone their ability to develop an idea and communicate it effectively. Students will discover global perspectives and encounter multiple points of view by analyzing and evaluating a variety of nonfiction and literary texts. This class will also introduce students to the rigors of high school curricula by focusing on the reading comprehension, academic writing, and study skills students will utilize throughout their academic career. English 9 is designed for students who would benefit from a modified curriculum. The content follows the Indiana English 9 Standards, but the instruction and materials have been adapted to meet the needs of these students.
10022 ENGLISH 9 ADVANCED (9-12) (2 semester course for 2 credits)
English 9 Adv. helps students improve and expand their skills in grammar, usage, vocabulary, composition, literature, critical thinking, and communication. Students will explore the writing process and hone their ability to develop an idea and communicate it effectively. Students will discover global perspectives and encounter multiple points of view by analyzing and evaluating a variety of nonfiction and literary texts. This class will also introduce students to the rigors of high school curricula by focusing on the reading comprehension, academic writing with research, and study skills students will utilize throughout their academic career.

10023 ENGLISH 9 HONORS (9) (2 semester course for 2 credits)
The content of English 9 Honors is the same as English 9 Advanced, however English 9 Honors is the most rigorous and challenging course in the freshman English curriculum. It is designed for students who are competent writers and responsible workers. Critical reading, extensive writing and further development of vocabulary and communication skills are expected of the students. Success in this course will require strong study skills and a high level of self-motivation. Summer reading is required.

10041 ENGLISH 10 (10-12) (2 semester course for 2 credits)
English 10 builds on the skills students developed during English 9. Grammar, usage, vocabulary, composition, critical thinking, and communication skills, as well as use of the writing process, will continue to be studied. Literature will include a variety of texts, including fiction, nonfiction, and drama. This class will focus on increasing student efficacy in reading comprehension, academic writing, and study skills.

10042 ENGLISH 10 ADVANCED (10-12) (2 semester course for 2 credits)
English 10 Adv. builds on the skills of grammar, usage, vocabulary, composition, critical thinking, and communication skills, as well as use of the writing process, will continue to be studied. Literature will include a variety of texts, including fiction, nonfiction, and drama. This class will focus on increasing student efficacy in reading comprehension, academic writing, and study skills.

10043 ENGLISH 10 HONORS (10) (2 semester course for 2 credits)
The content of English 10 Honors is the same as English 10 Advanced, however English 10 Honors is the most rigorous and challenging course in the sophomore English curriculum. It is designed for students who are competent writers and responsible workers. Critical reading, extensive writing and further development of vocabulary and communication skills are expected of the students. Success in this course will require strong study skills and a high level of motivation. Summer reading is required.

10061 ENGLISH 11 (11-12) (2 semester course for 2 credits)
English 11 will be a combination of vocabulary, grammar, composition, and literature. The vocabulary section will incorporate techniques for systematic vocabulary growth. The grammar emphasis will be on writing complete sentences and subordinate clauses. Essays of narration, exposition, persuasion, description and analysis will be explored. Various genres will be studied in the American literature section: documents, essays, short stories, and poetry. A research paper is required

10062 ENGLISH 11 ADVANCED (11-12) (2 semester course for 2 credits)
English 11 Advanced will be a combination of vocabulary, grammar, composition, and literature. The vocabulary section will incorporate techniques for systematic vocabulary growth. The grammar emphasis will be on writing complete sentences and subordinate clauses. Essays of narration, exposition, persuasion, description and analysis will be explored. Various genres will be studied in the American literature section: documents, essays, short stories, and poetry. Moby Dick and Fahrenheit 451 will be studied.

1056 ENGLISH LANGUAGE & COMPOSITION, ADVANCED PLACEMENT (11) (2 semester course for 2 credits)
Prerequisite: Recommendation of previous teacher, previously enrolled in honors English courses. This course follows College Board Entrance Examination guidelines. It enables students to read complex texts with understanding and to write prose of sufficient richness and complexity to communicate effectively with mature readers. Through the process of reading, writing, and discussing texts, students will become skilled in composing for different audiences and purposes. Students will learn to understand and appreciate the diverse ways that authors make meaning in both oral and written texts. They will identify literary structures and conventions and effectively use them in their own writing. Opportunities to develop speaking skills will also be incorporated into classroom activities and assignments. This is a rigorous, college preparatory course. The successful student will have a command of grammar, have strong writing and reading skills and have the work ethic required for independent reading. Summer reading is required. May be taken for dual credit through USI, Rhetoric & Composition I/ENG 101.
1030  ENGLISH LITERATURE  (12)  (1 semester course for 1 credit)
This course is a survey of representative works of the English-speaking authors. Students examine a wide variety of literary genres that reflect the English-speaking peoples from the Anglo-Saxon Period to the present. Students analyze how the ideas and concepts presented in the works are both interconnected and distinctly reflective of the cultures and the countries in which they were written.

1078  ADVANCED SPEECH AND COMMUNICATION  (12)  (1 semester course for 1 credit)
This class is the study and application of skills in listening, oral interpretation, media communications, research methods, and oral debate. Students deliver different types of oral and multi-media presentations, including speeches to inform, to motivate, to entertain, and to persuade through the use of impromptu, extemporaneous, memorized, or manuscript delivery. Students complete a project, such as multi-media presentations that are reflective, reports or historical investigations, responses to literature, or persuasive arguments, which demonstrates knowledge, application, and speaking progress in the course. This class may be taken for dual (college) credit through OCU, Fundamentals of Speech/COMM 202.

4508  TECHNICAL / BUSINESS COMMUNICATION  (12)  (1 semester course for 1 credit)
This course provides students with the communication and problem-solving skills to function effectively in the workplace. Areas of study include written/oral/visual communication, listening, informational reading, Internet research/analysis, and electronic communication. Concepts addressed will include adapting communication to the situation, purpose, and audience. Students will work with and produce documents related to employee handbooks, instructional manuals, employment communication, organizational communication, business reports, and social and professional situations using word processing, presentation, and multimedia software. Instructional strategies will include team projects, class or small group discussions and case studies or scenarios. Resume writing and mock interviewing will also be addressed. This course does not count for NCAA English requirement.

1058  ENGLISH LITERATURE & COMPOSITION, ADVANCED PLACEMENT  (12)  (1 semester course for 1 credit)
Prerequisite: Recommendation of previous teacher, previously enrolled in honors English. This course has a dual focus: preparing for the AP English Lit and Comp. exam and exploring American Literature. In keeping with College Board’s AP ENGLISH COURSE DESCRIPTION, readings will include essays, novels, speeches, poems, and personal narratives by a diverse group of American authors who were writing for varied purposes and audiences. In reading and analyzing these non-fiction, fiction, and poetry texts, our focus will be on both textual detail and historical context to provide a foundation for interpretation. An emphasis on relevant critical concepts and vocabulary will allow students to exercise these in verbal and written responses, textual analyses, and interpretations. Writing assignments and projects will be varied and will enable students to develop proficiency in the expository, argumentative, and persuasive modes. A research paper will be assigned. A book report will be required each six weeks. A study of Shakespeare’s HAMLET is included. AP students should have the maturity, the skill, and the will to seek the larger meaning through thoughtful research. This is a rigorous, college preparatory course. The successful student will have a command of grammar, have strong writing and reading skills and have the work ethic required for independent reading. Summer reading is required. This course may be taken for dual credit through USI, Introduction to Literature/ENG 105.

0590  BASIC SKILLS DEVELOPMENT – READING AND WRITING  (9-11)  (2 semester course for 2-6 cr)
Basic Skills Development is an elective course which provides students with an IEP continuing opportunities to develop basic skills including: (1) reading – fluency, vocabulary development, comprehension strategies, (2) writing – development, language conventions, (3) listening, (4) speaking, (5) study and organizational skills, and (8) problem-solving skills that are essential for high school course work achievement. Determination of the skills to be emphasized in this course is based on the Indiana State Academic Standards, and individual student needs. The course will prepare students for success on the English 10 End of Course Assessment.

FINE ARTS

4000  INTRODUCTION TO TWO-DIMENSIONAL ART (L)  (9-12)  (semester 1 course for 1 credit)
Experiences include contour line drawings, collage design utilizing Adobe Photo Shop, acrylic painting, art history and writing.

4002  INTRODUCTION TO THREE-DIMENSIONAL ART (L)  (9-12)  (semester 2 course for 1 credit)
Experiences include pottery, clay sculpture, Styrofoam sculpture, word illustration using colored pencil and Adobe Photo Shop, pointillism, and scratchboard.
4004  ADVANCED TWO-DIMENSIONAL ART (L)  (10-12)  (semester 1 course for 1 credit)
Prerequisite: Introduction to Two-Dimensional Art, Introduction to Three-Dimensional Art with a C or better. Experiences include shading with pencil (spheres), floating objects (black and white on gray), spirals, flames and monograms, animal portrait (colored pencil shading), computer graphics Surrealism using Photoshop, and matting and display of art work.

4006  ADVANCED 3-DIMENSIONAL ART (L)  (10-12)  (semester 2 course for 1 credit)
Prerequisite: Intro to Two-Dimensional Art, Intro to Three-Dimensional Art, Advanced Two-Dimensional Art with a C or better. Experiences include landscape painting in acrylic, computer graphics using Photoshop, small paper mache sculpture, and matting and display of art work.

4060  DRAWING I  (11-12)  (semester 1 course for 1 credit)
Prerequisite: Introduction to 2-D and 3-D Art, Advanced 2-D and 3-D Art, with a C or better
Experiences include shaded shapes, Made of Spheres (6B pencil renderings), caricature (Photoshop), colored pencil still-life, colored pencil self-portrait, matting and display of art work.

4064  PAINTING I  (11-12)  (semester 2 course for 1 credit)
Prerequisite: Introduction to 2-D and 3-D Art, Advanced 2-D and 3-D Art, Drawing I, with a C or better
Experiences include architectural painting in acrylics, polychrome paper mache’ sculpture and a student proposed project.

4065  PAINTING II  (12)  (semester 1 course for 1 credit)
Prerequisite: Introduction to 2-D and 3-D Art, Advanced 2-D and 3-D Art, Drawing I, Painting I, with a C or better
Experiences include painting with no brushes, custom painting (individual project), painting that includes an attachment, still life painting, and mural design and painting.

4044  SCULPTURE  (12)  (semester 2 course for 1 credit)
Prerequisite: Introduction to 2-D and 3-D Art, Advanced 2-D and 3-D Art, Drawing I, Painting I, Painting II, with a C or better
Experiences include a miniature sculpture or a small object done as a large sculpture, sculpture using non-traditional material, custom sculpture (individual project), and ceiling tile design. Students will create and maintain a digital portfolio.

4182  BEGINNING CHORUS {Patriot Singers}  (9-12)  (2 sem course for 2 – 8 credits)
4186  INTERMEDIATE CHORUS {Patriot Vibe}
4184  VOCAL JAZZ I {Grace Notes}
4190  VOCAL JAZZ II {Elite Jazz}
Chorus provides students with opportunities to develop musicianship and specific performance skills through ensemble and solo singing. The chorus maybe be all male, all female or a mixed group. Activities create the development of quality repertoire in the diverse styles of choral literature that is appropriate in difficulty and range for the students. Instruction is designed to enable students to connect, examine, imagine, define, try, extend, refine, and integrate music study into other subject areas. Experiences include but are not limited to, improvising conducting, sight-reading and Kodaly. A limited number of public performances may serve as a culmination of daily rehearsal and music goals. Students may be required to participate in performances outside of the school day that support and extend learning in the classroom. This course will also incorporate show choir material. Anyone may enroll in Beginning Chorus. All other choirs require audition, which are held early in the spring. See instructor.

4168  INTERMEDIATE CONCERT BAND  (9-12)  (2 sem course for 2 – 8 credits)
Students taking this course are provided with a balanced comprehensive study of music through the concert band, which develops skills in the psychomotor, cognitive, and affective domains. Instruction is designed so that students are enabled to connect, examine, imagine, define, try, extend, refine, and integrate music study into other subject areas. Ensemble and solo activities are designed to develop elements of musicianship including, but not limited to: (1) tone production, (2) technical skills, (3) intonation, (4) music reading skills, (5) listening skills, (6) analyzing music, and (7) studying historically significant styles of literature. Experiences include, but are not limited to, improvising, conducting, playing by ear, and sight-reading. Public performances may serve as a culmination of daily rehearsal and musical goals. Students are required to participate in performance opportunities, outside of the school day, that support and extend learning in the classroom. In addition, students perform, with expression and technical accuracy, a large and varied repertoire of concert band literature that is developmentally appropriate. Students must attend summer band camp.
4242 INTRODUCTION TO THEATRE ARTS (9-12) (2 semester course for 2 credits)
4240 ADVANCED THEATRE ARTS (10-12) (2 sem course for 2 – 6 credits)

Theatre is for students who wish to develop acting skills and examine the development of stage character through body, face, and use of props, gestures and other areas of dramatic study. Practical hands-on experiences in acting, directing and stage craft are provided through the preparation and public performances of one or more plays. The introductory course covers the basic elements of theatre: acting, voice, effects, costuming, technical theatre, as well as an introductory unit on the history of performance. While the advanced course gives more emphasis on technique. Students move into a performance mode by completing preliminary work and producing a theatre presentation. Theatre is a performance lab, and participants are required to be actively involved in the Heritage Hills Theatre program. Students generally participate in the first semester play and the second semester musical. The following areas are covered: Using voice and body to communicate a message, staging and blocking, the structure of a theatre, critical viewing of theatre and film, understanding and analyzing plot, atmosphere and mood, theme and moral, understanding character. Also, various elements of technical theatre are covered, such as: designing and applying make-up, designing and evaluating costume choices, the process of producing a play, from script to final performance, using motivation to play a character effectively, storytelling as an oral tradition that led to theatre as an art form.

1086 STUDENT PUBLICATIONS (11-12) (2 sem course for 2 – 4 credits)

Yearbook is for the student who has an interest in computer graphic design, taking pictures, being involved in school activities, and writing. Students will learn elements of journalism, photography, graphic design, advertisement/marketing, bookkeeping, and budgeting. Students will also follow the ethical principles and legal boundaries that guide scholastic journalism. Enrollment is limited and must be approved by the instructor. Students may enroll both Junior and Senior year. Yearbook counts for the fine arts requirement towards Academic Honors Diploma.

HEALTH, PHYSICAL EDUCATION AND SAFETY

Required: 1 credit in Health, 2 credits in Physical Education. One credit must be taken in the classroom or in the summer PE Program. The second credit may be earned through the classroom, summer PE, Elective Physical Education or by adequate participation in a sport/dance/cheer/band (The Summer PE course has a fee and enrollment deadline. Ask in Guidance).

3542 PHYSICAL EDUCATION I (9-12) (1 semester course for 1 credit)

Physical Education I puts an emphasis on health-related fitness and developing the skills and habits necessary for a lifetime of activity. This program includes skill development and the application of rules and strategies of complex difficulty in at least three of the following different movement forms: (1) health-related fitness activities (cardio respiratory endurance, muscular strength and endurance, flexibility, and body composition), (2) aerobic exercise, (3) team sports, (4) individual and dual sports, (5) outdoor pursuits, (6) aquatics, recreational games. Ongoing assessment includes both written and performance-based skill evaluations. Classes are coeducational. Adapted physical education is offered, as needed, in the least restricted environment and is based on individual assessment. All students will participate in both gym PE and pool PE unless a doctor’s excuse is on file in the guidance office by the beginning of the semester.

3560 ELECTIVE/ADVANCED PHYSICAL EDUCATION (9-12) (1 semester course for 1 credit)

Prerequisite – Physical Education I. The goal of a physically educated student is to maintain appropriate levels of cardio-respiratory endurance, muscular strength and endurance, flexibility, and body composition necessary for a healthy and productive life. Elective Physical Education promotes lifetime sport and recreational activities and provides an opportunity for an in-depth study in one or more specific areas. It includes the study of physical development concepts and principles of sport and exercise and also opportunities to develop or refine skills and attitudes that promote lifelong fitness. Students have the opportunity to design and develop an appropriate personal fitness program that enables them to achieve a desired level of fitness. Ongoing assessment includes both written and performance-based skill evaluation. This course is offered as a period during the school day or before school 7:00 – 7:55.

3506 HEALTH AND WELLNESS EDUCATION (9-12) (1 semester course for 1 credit)

Health teaches the student to see good health as a functional matter in his/her life today rather than as a delayed benefit. Healthful living must become a part of the experience of each student, and the classroom experiences are designed to help develop self-awareness and value judgments. Activities motivate students in making these concepts a part of their lives. The following content areas are included: growth and development, mental and emotional health, community health, environmental health, nutrition, family life education, personal health, alcohol and other drugs, intentional and unintentional injury, and health promotion/disease prevention.
3508  CURRENT HEALTH ISSUES  (10-12)  (1 semester course for 1 credit)
Prerequisite: Health. This is an elective course which focuses on emerging trends in health including, but not limited to: (1) medical technology; (2) local, state, and national health policy; (3) health care issues; (4) health careers; and (5) chronic and communicable diseases. The course is driven by student selection of topics and emphasizes individual learning techniques.

HEALTH SCIENCE
HOSPITALITY & HUMAN SERVICES

COLLEGE AND CAREER PATHWAYS:

BIOTECHNOLOGY
PLTW Principles of Biomed
PLTW Human Body Systems
PLTW Medical Interventions
PLTW: Biomedical Innovation

HEALTH CARE
SPECIALTIES/NURSING:
Nutrition & Wellness/Culinary
Child Dev./Adv Child Dev
Principals of Biomedical Sciences
Human Body Syst
Medical Inter
Biomedical Innovation
Health Science Education I
Medical Terms
Anatomy & Physiology

CULINARY ARTS/
HOSPITALITY MGT
Preparing for College and Careers
Nutrition and Wellness
Introduction to Culinary Arts
Culinary Arts and Hospitality I
Principles of Business Management
Administrative and Office Mgt
Principles of Marketing

5362  CHILD DEVELOPMENT  (9-12)  (1 semester course for 1 credit)
This is an introductory course for all students as a life foundation and academic enrichment; it is especially relevant for students interested in careers that draw on knowledge of children, child development, and nurturing of children. This course addresses issues of child development from conception/prenatal through age 3. It includes the study of prenatal development and birth; growth and development of children; child care giving and nurturing; and support systems for parents and caregivers. Students are required to participate in the “Baby Think it Over” project. In order to take this project home, students must be passing the class with an 80% or better. This course provides the foundation for continuing and post-secondary education in all career areas related to children, child development, and nurturing of children.

5360  ADVANCED CHILD DEVELOPMENT  (10-12)  (1 semester course for 1 credit)
Prerequisite: Child Development. This course is for students interested in life foundations, academic enrichment, and/or careers related to knowledge of children, child development, and nurturing of children. This course addresses issues of child development from age 4 through age 12 (grade 6). It builds on the Child Development course. Topics include the study of professional and ethical issues in child development; child growth and development; child development theories, research, and best practices; child health and wellness; teaching and guiding children; special conditions affecting children; and career exploration in child development.

5218  PLTW: PRINCIPLES OF BIOMEDICAL SCIENCES (PLTW)  (9-12)  (2 semester course for 2 credits)
Prerequisite: Biology I or concurrent enrollment in Biology I is required. This Project Lead The Way course provides an introduction to this field through “hands-on” projects and problems. Student work involves the study of human medicine, research processes and an introduction to bioinformatics. Students investigate the human body systems and various health conditions including heart disease, diabetes, hypercholesterolemia, and infectious diseases. A theme through the course is to determine the factors that led to the death of a fictional person. After determining the factors responsible for the death, the students investigate lifestyle choices and medical treatments that might have prolonged the person’s life. Key biological concepts included in the curriculum are: homeostasis, metabolism, inheritance of traits, feedback systems, and defense against disease. Engineering principles such as the design process, feedback loops, fluid dynamics, and the relationship of structure to function will be included where appropriate. The course is designed to provide an overview of all courses in the Biomedical Sciences program and to lay the scientific foundation necessary for student success in the subsequent courses. This course may be taken for dual credit by earning a score of 6 (B) on the PLTW End of Course Assessment, through IUPUI. See teacher for more information.

5216  PLTW: HUMAN BODY SYSTEMS (Project Lead the Way)  (10-12)  (2 semester course for 2 credits)
Prerequisite: Principles of the Biomedical Sciences. This course is designed to engage students in the study of basic human physiology and the care and maintenance required to support the complex systems. Using a focus on human health, students will employ a variety of monitors to examine body systems (respiratory, circulatory, and nervous) at rest and under stress, and observe the interactions between the various body systems. Students will use appropriate software to design and build systems to monitor body functions. This course may be taken for dual credit by earning a score of 6 (B) on the PLTW End of Course Assessment, through IUPUI.
5217  PLTW: MEDICAL INTERVENTIONS (Project Lead the Way) (11-12) (2 semester course for 2 credits)  
**Prerequisite:** Principles of Biomedical Sciences and Human Body Systems or Anatomy and Physiology  
Medical Intervention is a course that studies medical practices including interventions to support humans in treating disease and maintaining health. Using a project-based learning approach, students will investigate various medical interventions that extend and improve quality of life, including gene therapy, pharmacology, surgery, prosthetics, rehabilitation, and supportive care. Students will also study the design and development of various interventions including vascular stents, cochlear implants, and prosthetic limbs. Lessons will cover the history of organ transplants and gene therapy with additional readings from current scientific literature, addressing cutting edge developments. Using 3-D imaging software, students will design and build a model of a therapeutic protein. *This course may be taken for dual credit by earning a score of 6 (B) on the PLTW End of Course Assessment, through IUPUI.*

5219  PLTW: BIOMEDICAL INNOVATION (Project Lead the Way) (12) (2 semester course for 2 credits)  
**Prerequisite:** Principles of Biomedical Sciences, Human Body Systems or Anatomy and Physiology and Medical Interventions.  
PLTW Biomedical Innovation is a capstone course designed to give students the opportunity to design innovative solutions for the health challenges of the 21st century as they work through progressively challenging open ended problems, addressing topics such as clinical medicine, physiology, biomedical engineering, and public health. They have the opportunity to work on an independent project and may work with a mentor or advisor from a university, hospital, physician’s office, or industry. Throughout the course, students are expected to present their work to an adult audience that may include the local business and healthcare community. *May be taken for dual credit by earning a score of 6 (B) on the PLTW End of Course Assessment, through IUPUI.*

5284  HEALTH SCIENCE EDUCATION I: NURSING (HOSAg) (Tell City) (12) (2 per, 2 sem course for 4 credits)  
**Prerequisites:** Recommended Chemistry. Health Science Education is a two period course taken at Tell City High School. Its content includes a core of entry level skills in healthcare. Course content includes an introduction to health care systems, anatomy, physiology, and medical terminology. Also included are leadership skills developed through membership in the student youth organization, Health Occupations Students of America. During the second semester, instruction is integrated with core entry-level skills. The concept of coping with illness is also introduced. An in-school laboratory provides hands-on, simulated experiences. In the extended laboratory, students have the opportunity to develop basic job skills in different clinical settings. It is an extension of the in-school laboratory. *Health Sciences at Tell City is a dual credit course through Ivy Tech, Intro to Health Careers/HLHS 100. Students may earn an Indiana State Certified Nursing Assistant (CNA) Certification. This certification results in an additional 5 dual credits if the student attends Ivy Tech, CNA Preparation/HLHS 107.*

5274  MEDICAL TERMINOLOGY (Tell City) (12) (2 semester course for 2 credits)  
This is a one period course (3rd period, to be taken after HOSA periods 1,2) at Tell City High School. This course prepares students with language skills necessary for effective, independent use of health and medical reference materials. It includes the study of health and medical abbreviations, symbols, and Greek and Latin word part meanings taught within the context of body systems. This course builds skills in pronouncing, spelling, and defining new words encountered in verbal and written information. Students have the opportunity to acquire skills in interpreting medical records and communications accurately and logically. Emphasis is on forming a foundation for a medical vocabulary including meaning, spelling, and pronunciation, medical abbreviations, signs, and symbols are included. *This is a dual credit course through Ivy Tech, Medical Terms/HLHS 101.*

5210  PRE-PHARMACY (Jasper High School) (12) (2 period, 2 sem course for 4 credits)  
Students wishing to specialize in Pre-Pharmacy at JHS will be considered for the afternoon Health Careers (HOSA) class only. The pre-pharmacy option offers an intense six week, two hour credit a day study of general pharmacy, body systems, classification of drugs and basic science for the pharmacy technician. The course provides an opportunity for students to gain experience observing in a local retail pharmacy daily with real-on-the-job experiences. Students will be more prepared to continue their schooling in college to pursue a career as a pharmacist. Class enrollment is limited by the number of retail pharmacies available. Interest and grade point average will be used to select enrollees. Students must be of good moral character and standing in their school. Student must excel in Chemistry and Math. Students must provide own transportation.

5342  NUTRITION AND WELLNESS (10-12) (1 semester course for 1 credit)  
This course is valuable for students as a life foundation and academic enrichment; it is especially relevant for students interested in careers related to nutrition, food, and wellness. This is a nutrition class that introduces students to only the basics of food preparation so they can become self-sufficient in accessing healthy and nutritious foods. Major course topics include nutrition principles and applications; influences on nutrition and wellness; food preparation, safety, and sanitation; and science, technology, and careers in nutrition and wellness. Food preparation experiences are a required component. This course is the first in a sequence of courses that provide a foundation for continuing and post-secondary education in all career areas related to nutrition, food, and wellness.
5438  **INTRODUCTION TO CULINARY ARTS & HOSPITALITY**  (10-12)  (1 semester course for 1 credit)
Prerequisite: Nutrition and Wellness. This course is recommended for students who want to build basic culinary arts knowledge and skills. It is especially appropriate for students with an interest in careers related to Hospitality, Tourism, and Culinary Arts. A project-based approach that utilizes higher order thinking, communication, leadership, and management processes is recommended. Topics include basic culinary skills in the foodservice industry, safety and sanitation, nutrition, customer relations and career investigation. Students are able to explore this industry and examine their own career goals in light of their findings. Laboratory experiences that emphasize industry practices and develop basic skills are required components of this course.

5440  **CULINARY ARTS AND HOSPITALITY I** (Tell City HS)  (12)  (2 period, 2 sem course for 4 credits)
This is a two period class (periods 1-2) taught at Tell City HS. It prepares students for occupations and higher education programs of study related to the entire spectrum of careers in the hospitality industry. This course builds a foundation that prepares students to enter the Advanced Culinary Arts or Advanced Hospitality courses. Major topics include: introduction to the hospitality industry; food safety and personal hygiene; sanitation and safety; regulations, procedures, and emergencies; basic culinary skills; culinary math; and food preparation techniques and applications; principles of purchasing, storage, preparation, and service of food and food products; apply basic principles of sanitation and safety in order to maintain safe and healthy food service and hospitality environments; use and maintain related tools and equipment; and apply management principles in food service or hospitality operations. Intensive laboratory experiences with commercial applications are a required component of this course of study. Student laboratory experiences may be either school-based or "on-the-job" or a combination of the two. Work-based experiences in the food industry are strongly encouraged. A standards-based plan guides the students’ laboratory experiences. Students are monitored in their laboratory experiences by the Culinary Arts and Hospitality teacher. This course may be taken for dual credit through Ivy Tech, Sanitation and First Aid/HOSP 101.

4562  **PRINCIPLES OF BUSINESS MANAGEMENT**  (9-12)  (1 semester course for 1 credit)
This class focuses on the roles and responsibilities of managers as well as opportunities and challenges of ethically managing a business in the free enterprise system. Students will attain an understanding of management, team building, leadership, problem solving steps and processes that contribute to the achievement of organizational goals. The management of human and financial resources is emphasized. *May be taken for dual credit (Junior/Senior year) through VU, Intro. to Business, MGMT 100.*

**MATHEMATICS**

**MATH SEQUENCE GUIDELINES (PER TEACHER RECOMMENDATIONS, AS NEEDED)**
*If fail Algebra I/Algebra I Enrichment, take Math 10 or Algebra I
*If below average grades in Algebra I/Algebra I Lab, take Math 10, Algebra I or Algebra II with Math Lab
*Note: For a student to take both and Algebra II Honors and Geometry Honors, during the same year, he/she should have earned an A- or better in Algebra I or have teacher referral. These students should have the intention of taking higher level math their senior year.

2520  **ALGEBRA I**  (9-12)  (2 semester course for 2 credits)
Algebra I provides a formal development of the algebraic skills and concepts necessary for students who will take other advanced college-preparatory courses. In particular, the instructional program in this course provides for the use of algebraic skills in a wide range of problem-solving situations. Topics include all state standards, some of which are: (1) operations with real numbers, (2) solving and graphing linear equations and inequalities, and absolute value equations, (3) relations and functions, (4) solving and graphing systems of linear equations and inequalities, (5) operations with polynomials and algebraic fractions, (6) solving and graphing quadratic, cubic and radical equations, and (7) data analysis and statistics. A scientific calculator may be used often as well as the classroom set of graphic calculators.

2516  **ALGEBRA I LAB**  (9-10)  (2 semester course for 2 credits)
Algebra I Lab is a mathematics support course for Algebra I. The course provides students with additional time to build the foundations necessary for high school math courses, while concurrently having access to rigorous, grade-level appropriate courses. The five critical areas of Algebra I Lab align with the critical areas of Algebra I: Relationships between Quantities and Reasoning with Equations; Linear and Exponential Relationships; Descriptive Statistics; Expressions and Equations; and Quadratic Functions and Modeling. This course counts as a Mathematics Course for the General Diploma only or as an Elective for the Core 40, Core 40 with Academic Honors and Core 40 with Technical Honors diplomas. Algebra I Lab is designed as a support course for Algebra I. As such, a student taking Algebra Lab must also be enrolled in Algebra I during the same academic year.
2531  MATH 10  (10-11) (2 semester course for 2 credits)
Math 10 is a course designed to reinforce and elevate the Algebra I and 7th and 8th grade geometry knowledge and skills necessary for students to successfully complete high school mathematics courses beyond Algebra I and essentials for passing the state’s graduation qualifying exam in mathematics. Enrollment will be contingent upon recommendation of the Algebra teacher based on diagnostic results of performance in Algebra I and/or mathematics competency assessments. The standards for this course are aligned to the state standards that students need to master for success with the state’s graduation qualifying exam in mathematics and the next level math courses.

2522  ALGEBRA II  (10-12) (2 semester course for 2 credits)
Prerequisite: Algebra I. This course expands on Algebra I and further develops the concept of a function. Students are required to have a graphics calculator and will: (1) graph relations and functions and find zeros; (2) use function notation and combine functions by compositions; (3) solve systems of linear equations and inequalities to solve word problems; (4) solve quadratic equations, including the use of complex numbers; (5) interpret maximum and minimum values of quadratic functions; (6) solve equations that contain square roots; (7) use the binomial theorem, divide and factor polynomials and solve polynomial equations; (8) write conic equations and draw their graphs; (9) use negative fractional exponents; (10) solve problems of direct, inverse, and joint variation; (11) graph exponential functions; (12) solve exponential and logarithmic equations and inequalities; (13) define and use arithmetic and geometric sequences and series; (14) compute combinations, permutations and probabilities; and (15) use problem solving strategies.

2560  MATHEMATICS LAB  (10-12) (2 semester course for 2 credits)
Math Lab is a class designed as a support course for Algebra II. It is to help students improve their math skills. It is encouraged for those students who might need additional time and support in the Algebra II course, and so students enrolled in Math Lab must also be enrolled in Algebra II. This class does not fulfill the math requirements for graduation.

25221  ALGEBRA II HONORS  (9-12) (2 semester course for 2 credits)
Prerequisite: Algebra I. This course follows the same curriculum as Algebra II. However, Algebra II Honors explores each topic at a deeper level and requires the solution of more difficult problems than what Algebra II requires. Students will use a graphics calculator.

2532  GEOMETRY  (10-12) (2 semester course for 2 credits)
Prerequisite: Algebra I and Algebra II. This course provides students with experiences that deepen the understanding of shapes and their properties. Deductive and inductive reasoning as well as investigative strategies in drawing conclusions are stressed. Properties and relationships of geometric figures include the study of: (1) angles, (2) lines, (3) planes, (4) congruent and similar triangles, (5) trigonometric ratios, (6) polygons, and (7) circles and spatial drawings. An understanding of proof and logic is developed. Use of graphing calculators and computer drawing programs is encouraged.

25321  GEOMETRY/HONORS  (10-12) (2 semester course for 2 credits)
Prerequisite: Algebra I and Algebra II. In this course, students pursue a deeper study of theorems and postulates relating to two and three-dimensional objects. A greater understanding of logic and its application to proofs and problem solving will be stressed. Properties and relationships of geometric objects will include the study of: (1) angles, lines, and planes; (2) congruent, similar, and right triangles (including trigonometry); (3) polygons; (4) circles; and (5) solids. Technology used will include scientific calculators and Dynamic Geometry Software.

2564  PRE-CALCULUS/TRIGONOMETRY  (11-12) (2 semester course for 2 credits)
Prerequisite: Algebra I, Algebra II/Honors, and Geometry Honors. This course blends together concepts and skills that must be mastered prior to enrollment in a college-level calculus course. Students will: (1) analyze polynomial, rational, exponential, logarithmic and algebraic functions and their graphs; (2) find inverse and transformations of the above functions; (3) define trigonometric functions using the unit circle with degrees and radians; (4) solve problems using trigonometry; (5) prove trigonometric identities; (6) define polar coordinates and complex numbers; (7) define and use arithmetic and geometric sequences and series; and (8) model data with linear and non-linear functions. This course may be taken for dual (college) credit through OCU, College Algebra.
2544  ADVANCED MATH / FINITE  (11-12) (2 semester course for 2 credits)
Prerequisite: Enrolled in or have completed Pre-Calculus. This course provides students with the content of a freshman college math course. Topics include: (1) set theory, (2) linear systems, (3) matrices, (4) determinants, (5) probability, (6) linear programming, (7) mathematics of finance, and (8) statistics. May be taken for dual credit through VU, Finite Mathematics/MATH 111.

2562  CALCULUS, ADVANCED PLACEMENT  (12) (2 semester course for 2 credits)
Prerequisite: Pre-Calculus. This is a course that provides students with the content that has been established by the College Board. Generally, topics include: (1) limits, (2) continuity, (3) derivatives, (4) definite integrals, and (5) techniques of integration involving rational, trigonometric, logarithmic, and exponential functions. This course also includes applications of the derivative, the integral, and theory of calculus. The use of graphing technology is required.

4512  BUSINESS MATHEMATICS  (QR course) (11-12) (2 semester course for 2 credits)
This class explores math skills needed for students to function in today’s personal/business worlds by covering the following topics: figuring gross and net pay, banking services, loans and credit cards, spending wisely, owning a home or car, insurance and investments, personal taxes, and managing people and inventory. Dave Ramsey’s Foundations in Personal Finance is an integral part of this course. The course is designed to prepare students for roles as entrepreneurs, producers, and business leaders by developing abilities and skills that are part of any business environment. This course counts for 2 math credits towards the General Diploma.

SCIENCE

3024  BIOLOGY I  (9-12) (2 semester course for 2 credits)
Biology I provides students with an introduction to biology based on the Indiana Academic Standards. Standard I includes the study of molecules, cells, genetics, evolution, and ecology. Standard II includes the historical perspectives of biology – mainly the contributions of Gregor Mendel and Charles Darwin.

30241  BIOLOGY I HONORS  (9-12) (2 semester course for 2 credits)
This course provides students with an introduction to biology based on the Indiana Academic Standards, including the study of molecules, cells, genetics, evolution, zoology, and ecology. Students will investigate biological questions and problems related to societal issues. Also, students will study the historical perspectives of biology with emphasis on career opportunities using biology.

5276  ANATOMY AND PHYSIOLOGY  (11-12) (2 semester course for 2 credits)
Pre-requisite: Biology I and Chemistry I. In this course, students investigate and apply concepts associated with human anatomy and physiology. Concepts covered include the process of homeostasis and the essentials of human function at the level of genes, cells, tissues, and organ systems. Students will understand the structure, organization, and function of the various components of the healthy human body in order to apply this knowledge in all health-related fields. The course includes ample laboratory experiences that illustrate the application of the standards to the appropriate cells, tissues, organs, and organ systems. Dissection is both appropriate and necessary. Students should be able to use basis laboratory equipment such as microscopes, balances, and pipettes. May be taken for dual credit through Ivy Tech.

3108  INTEGRATED CHEMISTRY-PHYSICS  (QR course) (10-12) (2 semester course for 2 credits)
Prerequisite: Algebra I. This is a lab-based course in which students explore fundamental chemistry and physics principles. Students enrolled in this course examine, through the process of scientific inquiry, the structure and properties of matter, chemical reactions, forces, motion, and the interactions between energy and matter. Working in a laboratory environment, students investigate the basics of chemistry or physics in solving real-world problems that may have personal or social consequences beyond the classroom.

3064  CHEMISTRY I  (QR course) (10-12) (2 semester course for 2 credits)
Prerequisite: Algebra I (Must have passed Algebra ECA). Chemistry I is a course based on the following core topics: properties and states of matter, atomic structure, bonding, chemical reactions, solution chemistry, behavior of gases, and organic chemistry. Students will compare, contrast and synthesize useful models of the structure and properties of matter and the mechanisms of its interactions. The student will develop an understanding that scientific knowledge is gained from observation and experimentation by conducting laboratory investigations.

3066  CHEMISTRY II  (QR course) (11-12) (2 semester course for 2 credits)
Prerequisite: Chemistry I and Algebra II. This is an extended chemistry course that examines the chemical reactions of matter in living and nonliving materials. The major topics and concepts covered are solutions, chemical equilibrium, types of chemical reactions, acid
base chemistry, nuclear chemistry, and organic chemistry. Laboratory investigations will be performed to allow students the opportunity to observe, calculate and interpret results, and communicate results effectively. This course may be taken for dual credit.

3080 PHYSICS I, ADVANCED PLACEMENT (QR course) (11-12) (2 semester course for 2 credits)
Pre-requisite: Algebra II. AP Physics I is the equivalent of a first-semester college course in algebra-based physics; it is designed to be taught over a full academic year to enable AP students to develop deep understanding of the content and to focus on applying their knowledge through inquiry labs. The course covers Newtonian mechanics (including rotational dynamics and angular momentum); work, energy, and power; mechanical waves and sound. It also introduces electric circuits. Students will take AP Physics 1 exam upon completion of the course. After taking AP Physics 1 students will take AP Physics 2 (recommended for students considering pre-med, life science, or engineering majors).

3081 PHYSICS II, ADVANCED PLACEMENT (QR course) (12) (2 semester course for 2 credits)
Pre-requisite: AP Physics I. AP Physics II: Algebra-based is equivalent to a second-semester college course in algebra-based physics. Having a full year enables students to develop deep understanding of the content and focus on applying that knowledge through inquiry-based labs. The course covers fluid mechanics, thermodynamics, electricity and magnetism, optics, and atomic and nuclear physics (recommended for students considering pre-med, life science, or engineering majors).

3010 ENVIRONMENTAL SCIENCE (11-12) (2 semester course for 2 credits)
This class integrates biology, chemistry, earth space and other disciplines. Students conduct in-depth scientific studies of ecosystems, population dynamics, resource management, and environmental consequences of natural and anthropogenic processes. Students formulate, design, and carry out laboratory and field investigations as an essential course component. Students completing Environmental Science Advance acquire the essential tools for understanding the complexities of national and global environmental systems. This course may be taken for dual credit through USI, Environmental Conservation/Biol 251.

3044 EARTH AND SPACE SCIENCE I (10-12) (2 semester course for 2 credits)
This course provides a study of earth’s lithosphere, atmosphere, hydrosphere, and its celestial environment. This course emphasizes the study of energy at work in forming and modifying earth materials, landforms, and continents through geologic time. Students have opportunities to gain an understanding of the history of the development of the earth and space sciences, to explore the uses of the knowledge of the earth and its environment in various careers, and to cope with problems related to personal needs and social issues.

5218 PLTW: PRINCIPLES OF BIOMEDICAL SCIENCES (PLTW) (9-12) (2 semester course for 2 credits)
Pre-requisite: Biology I or concurrent enrollment in Biology I is required. This Project Lead The Way course provides an introduction to this field through “hands-on” projects and problems. Student work involves the study of human medicine, research processes and an introduction to bioinformatics. Students investigate the human body systems and various health conditions including heart disease, diabetes, hypercholesterolemia, and infectious diseases. A theme through the course is to determine the factors that led to the death of a fictional person. After determining the factors responsible for the death, the students investigate lifestyle choices and medical treatments that might have prolonged the person’s life. Key biological concepts included in the curriculum are: homeostasis, metabolism, inheritance of traits, feedback systems, and defense against disease. Engineering principles such as the design process, feedback loops, fluid dynamics, and the relationship of structure to function will be included where appropriate. The course is designed to provide an overview of all courses in the Biomedical Sciences program and to lay the scientific foundation necessary for student success in the subsequent courses. This course may be taken for dual credit by earning a score of 6 (B) on the PLTW End of Course Assessment, through IUPUI. See teacher for more information.

5216 PLTW: HUMAN BODY SYSTEMS (Project Lead the Way) (10-12) (2 semester course for 2 credits)
Pre-requisite: Principles of the Biomedical Sciences. This course is designed to engage students in the study of basic human physiology and the care and maintenance required to support the complex systems. Using a focus on human health, students will employ a variety of monitors to examine body systems (respiratory, circulatory, and nervous) at rest and under stress, and observe the interactions between the various body systems. Students will use appropriate software to design and build systems to monitor body functions. This course may be taken for dual credit by earning a score of 6 (B) on the PLTW End of Course Assessment, through IUPUI.

5217 PLTW: MEDICAL INTERVENTIONS (Project Lead the Way) (11-12) (2 semester course for 2 credits)
Pre-requisite: Principles of Biomedical Sciences and Human Body Systems or Anatomy and Physiology
Medical Intervention is a course that studies medical practices including interventions to support humans in treating disease and maintaining health. Using a project-based learning approach, students will investigate various medical interventions that extend and improve quality of life, including gene therapy, pharmacology, surgery, prosthetics, rehabilitation, and supportive care. Students will
also study the design and development of various interventions including vascular stents, cochlear implants, and prosthetic limbs. Lessons will cover the history of organ transplants and gene therapy with additional readings from current scientific literature, addressing cutting edge developments. Using 3-D imaging software, students will design and build a model of a therapeutic protein. *This course may be taken for dual credit by earning a score of 6 (B) on the PLTW End of Course Assessment, through IUPUI.*

5219 **PLTW: BIOMEDICAL INNOVATION (Project Lead the Way)** (12) (2 semester course for 2 credits)
Prerequisite: Principles of Biomedical Sciences, Human Body Systems or Anatomy and Physiology and Medical Interventions. PLTW Biomedical Innovation is a capstone course designed to give students the opportunity to design innovative solutions for the health challenges of the 21st century as they work through progressively challenging open ended problems, addressing topics such as clinical medicine, physiology, biomedical engineering, and public health. They have the opportunity to work on an independent project and may work with a mentor or advisor from a university, hospital, physician’s office, or industry. Throughout the course, students are expected to present their work to an adult audience that may include the local business and healthcare community. *May be taken for dual credit by earning a score of 6 (B) on the PLTW End of Course Assessment, through IUPUI.*

5070 **ADVANCED LIFE SCIENCE, ANIMALS (QR course)** (11-12) (2 semester course for 2 credits)
Prerequisite: Biology I and Integrated Chemistry/Physics or Chemistry I. This course integrates biology, chemistry, and microbiology in an agricultural context. Students will formulate, design, and carry out animal-based laboratory and field investigations. Students investigate key concepts that enable them to understand animal growth, development and physiology as it pertains to agricultural science. This course stresses the unifying themes of both biology and chemistry as students work with concepts associated with animal taxonomy, life at the cellular level, organ systems, genetics, evolution, ecology, and historical and current issues in animal agriculture. Students completing this course will be able to apply the principles of scientific inquiry to solve problems related to biology and chemistry in highly advanced agricultural applications of animal development.

### SOCIAL STUDIES

1548 **WORLD HISTORY AND CIVILIZATION** (9-12) (2 semester course for 2 credits)
This course provides the study of selected world cultures and civilizations. This course provides a basis for students to compare and analyze patterns of cultures, emphasizing both diversity and commonality of human experience and behavior. Students will study the interactions of cultures and the connections among civilizations from earliest times to present. This course is designed to focus on the following areas: 1) prehistory; (2) early world civilizations of the Middle East and Africa; (3) classical civilizations of Europe, and Africa, and (4) and the development of modern societies.

1538 **TOPICS IN HISTORY** (11-12) (1 semester course for 1 credit)
This is an advanced Late Twentieth Century American History U.S. History class that studies U.S. History from the Vietnam War to present day. This will be an in depth study of the 1970’s to the present using historical research and primary sources.

1542 **UNITED STATES HISTORY** (11) (1 semester course for 2 credits)
Students in U.S. History build on concepts developed in previous studies of American History. Students will identify and review significant events, figures, and movements in early American History. Emphasis will be on historical events in the late 19th and 20th centuries and the geographical, social, and economic influences in this time period. Students will demonstrate the ability to trace and analyze chronological periods and relate significant themes and concepts to the time periods. Students will be able to sequence historical events, examine cause and effect, identify different perspectives, relate historical situations to current issues, and read a variety of sources to develop skills in organizing and analyzing information. *May be taken for dual credit through OCU, HIS 242.*

1532 **PSYCHOLOGY** (11-12) (1 semester course for 1 credit)
Psychology provides an opportunity to study individual and group behavior. Content for the course includes knowledge and methods of noted psychologists as well as insights into human behavior patterns and adjustments to social problems. The students will develop a greater insight into various mental disorders and then causes. In addition, they will become aware of and more sensitive to the feelings of others. *This course may be taken for dual credit through OCU, General Psychology/PSY 101.*

1534 **SOCIOLOGY** (11-12) (1 semester course for 1 credit)
Sociology deals with man in relation to society. Through an analysis of groups in society, such as education, economics, religion, government and family, the role of the individual is clarified. In analyzing man's values and norms, students learn how the rules...
governing society are established. Much of the course is devoted to the study of social problems and the role of the individual regarding those problems. Prevailing social attitudes are analyzed objectively.

1514 ECONOMICS (QR course) (12) (1 semester course for 1 credit)
Economics examines the decision-making process from the viewpoint of the individual consumer acting as a voter in the market place. Opportunity-cost is studied from a cost-benefit analysis approach. Alternative economic systems are examined to expand the choice concept of what, how, and for whom goods will be produced. Part of the course identifies how individual choices affect supply and demand and how businesses are formed to supply goods and services to meet demand. Failures in the market place are also considered. Economics explores the relationships of economic decision-making and business cycles, monetary policy, and fiscal policy. The role of decision-making in relationship to selected topics such as international trade and choices within the area of policy relating to energy, agriculture, and health are also emphasized.

1540 UNITED STATES GOVERNMENT (12) (1 semester course for 1 credit)
This course explores governing processes, elements of political theory, and local, state, and national governmental structures. Opportunities should be provided for each student to examine, evaluate, and make decisions concerning the operation of our representative system of government. The content includes topics such as backgrounds and foundations of our system with emphasis on the United States Constitution; legislative, executive, and judicial functions at all levels and in all units of government; government, finance, elections and political parties; and individual rights and responsibilities. This course may be taken for dual credit through OCU, American Government and Politics/GOV 201.

1512 CURRENT PROBLEMS, ISSUES, AND EVENTS (10-12) (1 semester course for 1 credit)
Current Problems, Issues, and Events gives students the opportunity to apply investigative and inquiry techniques to the study of significant international and domestic problems and issues. Students develop competence in (1) recognizing cause and effect relationships, (2) recognizing fallacies in reasoning and propaganda devices, (3) synthesizing knowledge into useful patterns, (4) stating and testing hypotheses, and (5) generalizing based on evidence. Problems or issues selected will have contemporary historical significance and will be studies from the viewpoint of the social science disciplines.

WORLD LANGUAGE

2040 GERMAN I (9-12) (2 semester course for 2 credits)
German I provides students with opportunities to learn German through written, spoken, listening, and cultural activities. Students engage in individual and small group situations in order to gain an understanding of basic German grammar and vocabulary. The student will be able to: hold a basic conversation, write simple sentences, and understand basic spoken German. The student will also be introduced to German-speaking culture (Germany, Austria, and Switzerland) and their historical influences on the development of American communities and customs. As German shares common roots with the English language, this course also significantly supplements English vocabulary and grammar.

2042 GERMAN II (10-12) (2 semester course for 2 credits)
German II begins with a review of grammar, pronunciation, and phrases from German I. Students build their speaking skills significantly by applying previous knowledge and learning more specific vocabulary and grammar. This knowledge greatly expands the student’s ability to read and write in the German language. This course encourages interpersonal communication through speaking and writing, and also emphasizes the development of reading and listening comprehension skills, such as using contextual clues to guess meaning and comprehending longer written or oral directions. Students will continue their education of German-speaking culture (Germany, Austria, and Switzerland) and their similarities and differences with American culture. German II supplements English vocabulary and grammar.

2044 GERMAN III (11-12) (2 semester course for 2 credits)
German III reinforces the grammar and vocabulary used in the first two years, and introduces finer points of grammar and somewhat more difficult vocabulary. This course also emphasizes the continued development of reading and listening comprehension skills, such as using cognates, synonyms and antonyms to derive meaning from written and oral information, as well as comprehending detailed written or oral directions. Additionally, students will continue to develop understanding of German-speaking culture through recognition of the interrelations among the practices, products and perspectives of the target culture; discussion of significant events in the target culture; and investigation of elements that shape cultural identity in the target culture. This course further emphasizes making connections across content areas such as English and history.
GERMAN LANGUAGE AND CULTURE, ADVANCED PLACEMENT (12) (2 semester course for 2 credits)

AP German Language and Culture prepares students to be successful on the AP German exam. The course emphasizes communication (understanding and being understood by others) by applying interpersonal, interpretive, and presentational skills in real-life situations. It includes vocabulary usage, language control, communication strategies, and cultural awareness. The class strives not to overemphasize grammatical accuracy at the expense of communication. To best facilitate the study of language and culture, the course is taught almost exclusively in German. It engages students in an exploration of culture in both contemporary and historical contexts. The course develops students’ awareness and appreciation of cultural products (e.g., tools, books, music, laws, conventions, institutions); practices (patterns of social interactions within a culture); and perspectives (values, attitudes, and assumptions).

SPANISH I (9-12) (2 semester course for 2 credits)

Spanish I provides the fundamentals of Spanish grammar and reasons for studying Spanish. Students demonstrate an understanding of effective approaches to language learning and of many aspects of Hispanic culture. Students will be expected to participate in individual and paired speaking, and listening activities using laboratory software. They will read specific words and phrases within context, such as weather forecasts, menus, and schedules; understand the conjugations of regular and irregular verbs in the present tense form; comprehend written and spoken directions; respond to oral commands using oral and non-verbal responses; read short texts on basic topics, ask and answer simple questions both orally and in written form, express physical characteristics and personality traits of themselves and others, become familiar with and practice the basic rules of Spanish pronunciation and understand principal differences between the verbs "ser" and "estar". In addition, students learn about the culture of various Spanish speaking countries, the basic geographical locations and features of Mexico, Spain and Hispanic holidays.

SPANISH II (10-12) (2 semester course for 2 credits)

Spanish II is a continuation of Spanish I and therefore students are expected to recall and apply Spanish I material. Students participate in conversations that require more specific vocabulary and grammatical knowledge. Students expand their ability to express themselves by speaking about the present, the past and the future. They will be expected to participate in individual and paired speaking, and listening activities using laboratory software. Spanish II allows students to: interact in various social contexts using appropriate vocabulary and sentence structure; participate in conversations on topics such as childhood, likes and dislikes, occupations, etc.; deliver short, prepared presentations, conjugate and apply rules for using the two past tenses, demonstrate appropriate usage of direct and indirect objects, use polite commands and review informal commands, distinguish between "por" and "para", conjugate verbs in the future and conditional tenses, become familiar with the use of negatives, read aloud with appropriate pronunciation and intonation, write reasonable responses to a given topic, and summarize facts after reading short texts. Students also learn about the culture of selected Hispanic countries and major Hispanic holidays.

SPANISH III (11-12) (2 semester course for 2 credits)

Spanish III is a continuation of Spanish II and therefore students are expected to recall and apply Spanish II material. Students will participate in individual and paired speaking, and listening activities using laboratory software. Students will read and comprehend short stories, poetry, articles; write summaries, short essays and compositions; deliver prepared and impromptu presentations; understand and apply rules for pronunciation and intonation; write well-planned, meaningful responses to various prompts; understand isolated words and phrases from authentic spoken Spanish; respond to factual and interpretive questions using a variety of grammatical structures; conjugate verbs in the present subjunctive and command forms; conjugate verbs in the present perfect tense; listen, understand, and respond to short passages in the foreign language; interact in short, meaningful conversations with native speakers; and discuss visual and performance artists of various Spanish speaking countries.

SPANISH IV (12) (2 semester course for 2 credits)

In Spanish IV, a major emphasis is placed on review of previous knowledge and fine points of Spanish grammar. Students engage in conversations both inside and outside of the classroom with peers, as well as with native speakers. They participate in individual and paired speaking, and listening activities using laboratory software. Students review verb tenses and vocabulary; read longer authentic materials for comprehension and critical analysis; express opinions and judgments; explore complex points of Spanish grammar; give oral presentations on cultural topics, study Spanish history; discuss music traditions; interpret non-verbal communication; listen, understand, and respond to short passages; paraphrase; and adapt language to specific social settings and audiences. They will participate in cultural experiences, and explore artistic contributions of Latinos. This course may be taken for dual credit through USI, Intermediate Spanish I/SPAN 203 (6 CR SEM 1) Spanish II/SPAN 204 (6 credits sem. 2).