

# Madison Consolidated High School Course Curriculum Guide 2026-2027

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## **Administration:**

Mr. Ronnie Lawhead, Principal

Mrs. Angelia Upchurch, Assistant Principal

Mr. Dan Grill, Assistant Principal

## **Student Services:**

Mrs. Jennifer Corenius, School Counselor, Last names A - G  
jcornelius@madison.k12.in.us

Mrs. Betsy Sullivan, School Counselor, Last names H - N  
bsullivan@madison.k12.in.us

Mrs. Janelle Smith, School Counselor, Last names O - Z  
jsmith@madison.k12.in.us

# Academic Planning Information for Students & Families

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## Welcome

This curriculum guide has been developed by Madison Consolidated High School administration and department staff to help you and your student plan a successful high school experience. We encourage you to review this information carefully with your student and reach out to school counselors with any questions.

**Important:** While this guide provides detailed information about courses and requirements, the final selection of courses is the responsibility of students and their parents/guardians. Our counselors are here to provide guidance and support throughout the planning process.

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## Understanding Key Terms

### Credits & Coursework

- **Credit:** Earned by successfully completing an approved course that meets Indiana academic standards and required instructional time. A passing grade in an 18-week (semester) course awards credit.
  - **Semester:** One 18-week term, representing half of the regular school year
  - **Required Courses:** Courses mandated by state or local policy for graduation
  - **Elective Courses:** Courses students choose based on personal interests and goals
  - **Prerequisites:** Courses or requirements that must be completed before enrolling in a particular class
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## College Credit Opportunities

### Dual Credit & Dual Enrollment

MCHS offers qualified students the opportunity to earn both high school and college credit simultaneously. These courses may be offered at MCHS or Madison Ivy Tech campus.

### What You Need to Know:

- Tuition costs vary depending on the course and institution—some courses are free to students, others require payment
- Students must meet minimum college admission requirements
- **Financial Responsibility:** Students who earn less than a C- in Dual Enrollment courses are responsible for paying course tuition
- Not all dual credit automatically transfers to every college—we strongly encourage using courses from the Core Transfer Library at [www.TransferIN.net](http://www.TransferIN.net)

**How to Identify Dual Credit Courses:** Look for "\*\*\*\* Dual Credit Opportunity \*\*\*\*" next to course titles throughout this guide.

**Getting Started:** Contact your school counselor to discuss dual credit options and ensure you meet eligibility requirements. Programs and policies may change based on our partnerships with postsecondary institutions.

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## Important Reminders

### Academic Planning

- **Failed Required Courses:** Must be repeated as soon as possible
- **College Entrance Requirements:** Often exceed minimum graduation requirements—research your intended colleges early
- **Credit Earning Schedule:** On a 7-period day, students earn credit at the end of each semester (one credit per semester for each courses)
- **Credit Recovery:** Courses can only be taken in the Virtual Lab if they have been attempted twice in a classroom.

### Athletic Eligibility

**High School Athletics** Consult the MCHS Athletic Handbook for Indiana High School Athletic Association (IHSAA) eligibility requirements.

**College Athletics (NCAA)** Students planning to participate in NCAA Division I or II sports must:

- Register with the NCAA Eligibility Center at the end of junior year
  - Work closely with counselors and coaches to ensure all requirements are met
  - Visit <https://web1.ncaa.org/eligibilitycenter/common/index.html> for core course lists and eligibility details
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## Course Registration Process

Course registration takes place during the second semester of each school year. Students will receive guidance from counselors during this process.

### Steps for Success:

1. Review this curriculum guide with your student
  2. Consider graduation requirements, college plans, and personal interests
  3. Check prerequisites for desired courses
  4. Schedule a meeting with your student's counselor if you have questions
  5. Complete course selection forms by the announced deadline
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## Non-Discrimination Policy

Madison Consolidated Schools does not discriminate on the basis of race, color, religion, sex, national origin, disability, or age in its educational programs or employment policies, as required by:

- Indiana Civil Rights Act (I.C. 1971, 22-9-1)
  - Public Law 218 (I.C. 1971, Title 20)
  - Titles VI and VII of the Civil Rights Act of 1964
  - Equal Pay Act of 1973
  - Title IX of the Education Amendments of 1972
  - Public Law 94-142
  - Section 504 of Public Law 93-112
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## **Questions?**

Contact your student's school counselor for assistance:

- Course selection and academic planning
- Graduation requirements
- Dual credit opportunities
- College preparation
- Athletic eligibility
- Schedule changes or concerns

**We are here to help your student succeed!**

# Indiana Graduation Requirements

**IMPORTANT:** The graduation requirements below depend on your graduating class. Please see your counselor to determine which requirements apply to you.

## Indiana Graduation Requirements (Classes of 2026 - 2028)

Students in the graduating classes of 2026 - 2028 must check off the following three boxes to qualify for graduation:

<b>Core 40 Diploma</b>	<b>Employability</b>	<b>College/Career Readiness</b>
<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p><u>40 credits, including:</u></p> </div> <p>8 cr. Language Arts            6 cr. Math + <i>math/QR every year</i>            6 cr. Science            6 cr. Social Studies            2 cr. PE            1 cr. Health            5 cr. Directed Electives            6 cr. Electives</p> <p><b>** Honors Diplomas have additional requirements (see MCHS curriculum guide)</b></p>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>Complete <b>ONE</b> of the following:</p> </div> <p style="text-align: center;">Work-Based Learning</p> <p style="text-align: center;">Or</p> <p style="text-align: center;">Service-Based Learning</p> <p style="text-align: center;">Or</p> <p style="text-align: center;">Project-Based Learning</p>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>Complete <b>ONE</b> of the following:</p> </div> <p style="text-align: center;">CTE Concentration (6 cr)            Honors Diploma (Acad / Tech)            ASVAB Qualifying Score            IB/AP/DC/Cambridge International/            CLEP Exams            State or Industry Recognized            Certification            State, Federal or Industry            Recognized Apprenticeship            SAT (Min. 480 EBRW &amp; 530 MATH)            ACT (Min. 18 ENG, 22 MATH, 22            READ, 23 SCI)            Locally Created Pathway            Waiver</p>

### Diploma Requirements

The completion of the Indiana Core 40 Diploma is the minimum Indiana graduation requirement. The following pages describe the requirements for Core 40, Core 40 with Academic Honors, and Core 40 with Technical Honors. Indiana’s Core 40 curriculum provides the academic foundation all students need to succeed in college and the workforce.

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.

## Indiana Core 40 Diploma

<b>English/Language Arts</b>	<b>8 Credits</b> Including a balance of literature, composition and speech
<b>Math</b>	<b>6 Credits (in grades 9-12)</b> 2 credits: Algebra I 2 credits: Geometry 2 credits: Algebra II Or complete Integrated Math I, II, and III for 6 credits. Students must take a math course or quantitative reasoning course each year in high school
<b>Science</b>	<b>6 Credits</b> 2 credits: Biology I 2 credits: Chemistry I or Physics I or Integrated Chemistry-Physics 2 credits: any Core 40 science course
<b>Social Studies</b>	<b>6 Credits</b> 2 credits: U.S. History 1 credit: U.S. Government 1 credit: Economics 2 credits: World History/Civilization or Geography/History of the World
<b>Directed Electives</b>	<b>5 Credits</b> World Languages Fine Arts Career and Technical Education
<b>Physical Education</b>	<b>2 credits</b>
<b>Health &amp; Wellness</b>	<b>1 credit</b>
<b>Electives</b>	<b>6 credits</b> (College and Career Pathway courses recommended)
<b>40 Total State Credits Required</b>	

<b>Core 40 w/ Academic Honors (47 credits)</b>	<b>Core 40 w/ Technical Honors (47 credits)</b>
<ul style="list-style-type: none"> <li>• Complete all requirements for core 40</li> <li>• 2 additional math credits</li> <li>• Earn 6-8 World Language credits</li> <li>• Earn 2 core 40 fine arts credits</li> <li>• Earn a "C" or better in courses that will count toward the diploma</li> <li>• Have a GPA of 3.0 or better</li> <li>• Complete <u>one</u> of the following:               <ul style="list-style-type: none"> <li>○ Earn 4 credits in 2 AP courses and take corresponding AP exams</li> <li>○ Earn 6 transcribed college credits in dual credit courses</li> <li>○ Qualifying scores on SAT or ACT</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Complete all requirements for core 40</li> <li>• Earn 6 credits in CTE Pathway courses and <u>one</u> of the following:               <ul style="list-style-type: none"> <li>○ Pathway designated industry certification</li> <li>○ 6 dual credits in the Pathway</li> </ul> </li> <li>• Earn a "C" or better in courses that will count toward the diploma</li> <li>• Have a GPA of 3.0 or better</li> <li>• Complete <u>one</u> of the following:               <ul style="list-style-type: none"> <li>○ 6 additional dual credits</li> <li>○ Earn qualifying scores on WorkKeys, Accuplacer, or Compass</li> </ul> </li> </ul>

# NEW Indiana Diploma (Beginning with Class of 2029)

*Starting with the Class of 2029, Indiana has redesigned diploma requirements. Schools may choose to adopt these requirements earlier.*

**The new diploma requires 42 credits minimum:**

**8 English Credits**

- English 9 (2), Communication Course (1), and 5 additional credits

**7 Science Credits**

- Biology I (2), Computer Science (1), STEM course (2), and 2 Additional Credits.

**7 Math Credits**

- Alg. I (2), Personal Finance (1), and 4 Additional Credits.

**5 Social Studies Credits**

- U.S. History (2), Government (1), World Cultures (2)

**2 Health/PE**

- Health (1), PE (1)

**1 Preparing for College and Careers**

**12 Electives**

<b><u>Enrollment Seal</u></b>	<b><u>Employment Seal</u></b>	<b><u>Enlistment Seal</u></b>
<p><b>4 World Language Credits</b>  <b>6 Social Studies Credits</b></p> <ul style="list-style-type: none"> <li>• Spanish III, French III, or World Cultures</li> </ul> <p><b>8 Math Credits</b></p> <ul style="list-style-type: none"> <li>• Must include Geometry &amp; Algebra II</li> </ul> <p><b>7 Science Credits</b></p> <ul style="list-style-type: none"> <li>• Must include Biology &amp; Chemistry I</li> </ul> <p><b>Earn C or higher in course &amp; Cumulative 3.0 GPA</b></p> <p><b>Complete 1 of the following:</b></p> <ul style="list-style-type: none"> <li>• Earn 4 AP courses credits &amp; take exam</li> <li>• Earn 6 dual credits</li> <li>• Score 1250 on SAT or 26 on ACT</li> </ul>	<p><b>Complete 1 of the following:</b></p> <ul style="list-style-type: none"> <li>• Complete 3 courses in a CTE pathway</li> <li>• Earn Credential of Value or Industry Certification</li> </ul> <p><b>Complete 150 Work Based Learning Hours</b></p> <p><b>Demonstrate communication, collaboration, and work ethic skills.</b></p> <p><b>Meet Attendance Goal</b></p> <ul style="list-style-type: none"> <li>• Per DOE, no more than 3 unexcused absences in a school year or WBL experience</li> </ul>	<p><b>Complete 1 of the following:</b></p> <ul style="list-style-type: none"> <li>• Intro to Public Service course</li> <li>• One year JROTC or Civil Air patrol in High School</li> </ul> <p><b>Achieve a score of 31 on the ASVAB and complete 1 of the following:</b></p> <ul style="list-style-type: none"> <li>• All 3 components of Career Exploration Program</li> <li>• A career exploration tool approved by IDOE</li> </ul> <p><b>Meet attendance goal</b></p> <p><b>Demonstrate skill development in:</b>            Communication, Collaboration, and work ethic.</p>
<p><b><u>Enrollment Seal, plus:</u></b></p> <p><b>Earn a Credential of Value that may include:</b></p> <ul style="list-style-type: none"> <li>• Associate Degree</li> <li>• Technical Certificate</li> <li>• Indiana College Core</li> </ul> <p><b>Complete at least 75 hours of work-based learning</b> (may include multiple experiences that are paid, unpaid, on-site, or simulated)</p> <p><b>Demonstrate skills development in the following areas:</b> Communication, Collaboration, Work Ethic</p>	<p><b><u>Employment Seal, plus:</u></b></p> <p><b>Earn a market-driven credential of value that may include:</b></p> <ul style="list-style-type: none"> <li>• Associate Degree</li> <li>• Technical Certificate</li> <li>• Indiana College Core</li> <li>• Advanced Industry Cert.</li> </ul> <p><b>Complete additional work-based learning (total 650 hours in one or more experiences) that may include:</b></p> <ul style="list-style-type: none"> <li>• Pre-Apprenticeships</li> </ul> <p><b>Demonstrate skill development in:</b>            Communication, Collaboration, Work ethic, and any additional skills determined locally.</p>	<p><b><u>Enlistment Seal, plus:</u></b></p> <p><b>Complete 1 of the following:</b></p> <ul style="list-style-type: none"> <li>• 50 or higher on ASVAB</li> <li>• Enrollment in ROTC at collegiate level</li> <li>• Acceptance to a service academy</li> </ul> <p><b>Demonstrate excellence in leadership through 1 of the following:</b></p> <ul style="list-style-type: none"> <li>• Completion of at least 100 hours of public service</li> <li>• Holding a leadership role in a co/extracurricular activity;</li> <li>• Completion of two seasons of a team based physical sport or activity.</li> </ul>

## MCHS Early College Pathway Indiana College Core + Associate of General Studies

Opportunity to receive a Certification or Associate Degree through Ivy Tech Community College while attending high school.

Indiana College Core (ICC) = Must earn at least 30 credits	Associate of General Studies (AGS) = Must earn at least 60 credits
<p><b>Must complete at least one course from each category:</b></p> <p><b>Speaking and Listening (3-6)</b></p> <p><input type="checkbox"/> COMM 101 - Fundamentals of Public Speaking: 3</p> <p><b>Written Communication (3)</b></p> <p><input type="checkbox"/> ENGL 111 - English Composition: 3</p> <p><b>Quantitative Reasoning (3-15)</b></p> <p><input type="checkbox"/> MATH 123 - Quantitative Reasoning: 3</p> <p><input type="checkbox"/> MATH 136 - College Algebra: 3</p> <p><input type="checkbox"/> MATH 137 - Trigonometry with Analytic Geometry: 3</p> <p><input type="checkbox"/> MATH 211 - Calculus I: 4</p> <p><b>Scientific Ways of Knowing (3-15)</b></p> <p><input type="checkbox"/> BIOL 101 - Introductory Biology: 3</p> <p><input type="checkbox"/> BIOL 105 - Biology I: 5</p> <p><input type="checkbox"/> CHEM 101 - Introductory Chemistry I: 3</p> <p><input type="checkbox"/> CHEM 125 - General Chemistry I: 5</p> <p><input type="checkbox"/> PHYS 101 - Physics I: 4</p> <p><input type="checkbox"/> PHYS 102 - Physics II: 4</p> <p><input type="checkbox"/> SCIN 111 - Physical Science: 3</p> <p><input type="checkbox"/> Other ICC Classes via ITCC</p> <p><b>Social and Behavioral Ways of Knowing (3-15)</b></p> <p><input type="checkbox"/> HIST 101 - Survey of American History I: 3</p> <p><input type="checkbox"/> HIST 102 - Survey of American History II: 3</p> <p><input type="checkbox"/> POLS 101 - Intro to American Government and Politics: 3</p> <p><input type="checkbox"/> Other ICC Classes via ITCC</p> <p><b>Humanistic and Artistic Ways of Knowing (3-15)</b></p> <p><input type="checkbox"/> ENGL 206 - Introduction to Literature: 3</p> <p><input type="checkbox"/> ENGL 221 - World Literature II: 3</p> <p><input type="checkbox"/> HUMA 118 - Music Appreciation: 3</p> <p><input type="checkbox"/> SPAN 101 - Spanish Level I: 4</p> <p><input type="checkbox"/> SPAN 102 - Spanish Level II: 4</p> <p><input type="checkbox"/> SPAN 201 - Spanish Level III: 3</p> <p><input type="checkbox"/> SPAN 202 - Spanish Level IV: 3</p> <p><input type="checkbox"/> Other ITCC Classes via ITCC</p> <p><small>** Courses listed are offered through MCHS. Other courses from each category may be taken at ITCC with prior approval to meet the ICC or AGS requirements.</small></p> <p><small>SYMBOL KEY</small></p> <p><small>^ Capstone Course</small></p> <p><small>* &amp; Elective is defined as a course chosen by the student.</small></p> <p><small>Courses in green are held at ITCC</small></p> <p><small>Courses in red are held at MCHS</small></p>	<p><b>Must complete Indiana College Core plus the following:</b></p> <p><b>Other Institutional Requirements (2)</b></p> <p><input type="checkbox"/> IVYT 111 - Student Success in University Transfer: 1</p> <p><input type="checkbox"/> GENS 279 - General Studies Capstone Course: 1 ^</p> <p><b>Professional-Technical Core (6)</b></p> <p><input type="checkbox"/> ENGL 215 - Rhetoric and Argument: 3</p> <p><b>Choose one of the following:</b></p> <p><input type="checkbox"/> COMM 102 - Introduction to Interpersonal Communication: 3</p> <p><input type="checkbox"/> PHIL 102 - Introduction to Ethics: 3</p> <p><input type="checkbox"/> POLS 101 - Intro to American Government and Politics: 3 (can use if not part of ICC)</p> <p><b>Statewide Electives (22)</b></p> <p><input type="checkbox"/> XXXX XXX - Student Electives 100-Level or higher: 22 * &amp;</p> <p><input type="checkbox"/> Any courses on the ICC above the 30 required or other ITCC classes</p> <p><input type="checkbox"/> AGRI 100 Introduction to Agriculture: 3</p> <p><input type="checkbox"/> AGRI 102 Agricultural Business and Farm Management</p> <p><input type="checkbox"/> AGRI 103 Animal Science: 3</p> <p><input type="checkbox"/> AGRI 104 Food Science: 3</p> <p><input type="checkbox"/> AGRI 106 Agriculture Mechanization: 3</p> <p><input type="checkbox"/> AGRI 107 Agriculture Mechanization: 3</p> <p><input type="checkbox"/> AGRI 108 Advanced Animal Science: 3</p> <p><input type="checkbox"/> APHY 101 Anatomy &amp; Physiology I: 3</p> <p><input type="checkbox"/> APHY 102 Anatomy &amp; Physiology II: 3</p> <p><input type="checkbox"/> BUSN 101 Introduction to Business: 3</p> <p><input type="checkbox"/> DESN 101 Intro to Design Technology: 3</p> <p><input type="checkbox"/> DESN 104 Mechanical Graphics: 3</p> <p><input type="checkbox"/> DESN 113 2D Computer-Aided Design (CAD): 3</p> <p><input type="checkbox"/> EDUC 101 Introduction to Teaching: 3</p> <p><input type="checkbox"/> EDUC 121 Child and Adolescent Development: 3</p> <p><input type="checkbox"/> EDUC 201 Technology in Education: 3</p> <p><input type="checkbox"/> EDUC 230 The Exceptional Child: 3</p> <p><input type="checkbox"/> EDUC 233 Lit Development through Children's Lit: 3</p> <p><input type="checkbox"/> HLHS 101 Medical Terminology: 3</p> <p><input type="checkbox"/> HOSP 101 Sanitation and Safety: 3</p> <p><input type="checkbox"/> HOSP 102 Basic Food Theory and Skills: 3</p> <p><input type="checkbox"/> HOS 103 Soups, Stocks, and Sauces: 3</p> <p><input type="checkbox"/> HOSP 104 Nutrition: 3</p> <p><input type="checkbox"/> HOSP 105 Introduction to Baking: 3</p> <p><input type="checkbox"/> MKTG 101 Principles of Marketing: 3</p> <p><input type="checkbox"/> MKTG 102 Principles of Selling: 3</p> <p><input type="checkbox"/> MKTG 252 Intro to Digital Marketing: 3</p> <p><input type="checkbox"/> MKTG 257 Digital Marketing Management: 3</p> <p><input type="checkbox"/> WELD 100 Welding Fundamentals: 3</p> <p><input type="checkbox"/> WELD 108 Shielded Metal Arc Welding I: 3</p> <p><input type="checkbox"/> WELD 206 Advanced Shielded Metal Arc Welding II: 3</p> <p><input type="checkbox"/> WELD 207 Gas Metal Arc (MIG) Welding: 3</p> <p><input type="checkbox"/> WELD 272 Advanced Gas Metal Arc (MIG) Welding II: 3</p>

*The following pages outline the course offerings by department. The student should pay close attention to course prerequisites, length of courses (1 or 2 semesters) and credits offered. The courses offered may change due to the balancing of class sizes, insufficient student enrollment, faculty changes, or changes in the Indiana High School Course Titles and Descriptions or the High School Dual Credit Crosswalk. The administration will attempt to keep changes to student schedules at a minimum due to these factors.*

## **ENGLISH/LANGUAGE ARTS**

### **ENGLISH 9 – Grade 9 (IDOE #1002)**

An integrated English course based on the Indiana Academic Standards for English/Language Arts in Grades 9-10, is a study of language, literature, composition, and oral communication, focusing on literature within an appropriate level of complexity for this grade band. Students use literary interpretation, analysis, comparisons, and evaluation to read and respond to representative works of historical or cultural significance in classic and contemporary literature balanced with nonfiction. Students write responses to literature, expository (informative), narrative, and argumentative compositions, and sustained research assignments. Students deliver grade-appropriate oral presentations with attention to audience and purpose and access, analyze, and evaluate online information. **Outside reading and homework are required. 2 credit, 2 semester course.**

### **ENGLISH 9 HONORS - Grade 9 (IDOE #1002)**

English 9 Honors focuses on the close reading, analytical writing, and language skills that have immediate relevance for students across their current courses and that are most essential for their future work in high school, college, and careers. Texts take center stage in the English 9 Honors classroom, where students engage in close, critical reading of a wide range of materials. The course trains the reader to observe the small details within a text to arrive at a deeper understanding of the whole. It also trains the writer to focus on crafting complex sentences as the foundation for writing to facilitate complex thinking and communicate ideas clearly. This course focuses on research and higher-level argumentative writing as well as public speaking. Students will meet the English 9 standards in this course. **Outside reading and homework are required. 2 credit, 2 semester course.**

### **ENGLISH 10 – Grade 10 (IDOE #1004)**

An integrated English course based on the Indiana Academic Standards for English/Language Arts in Grades 9- 10, is a study of language, literature, composition, and oral communication, focusing on literature with an appropriate level of complexity for this grade band. Students use literary interpretation, analysis, comparisons, and evaluation to read and respond to representative works of historical or cultural significance in classic and contemporary literature balanced with nonfiction. Students write responses to literature, expository (informative) and argumentative compositions, and sustained research assignments. Students deliver grade-appropriate oral presentations with attention to audience and purpose and access, analyze, and evaluate online information. **Outside reading and homework are required. 2 credit, 2 semester course.**

### **AP SEMINAR - Grade 10 (IDOE # 1104)**

AP Seminar: English is designed as a seminar-style English course focusing on foundational writing, collaboration, research, and presentation skills. Through an inquiry-based approach, students practice reading and analyzing articles, research studies, and foundational, literary, and philosophical texts; listening to and viewing speeches, broadcasts, and personal accounts; and experiencing artistic works and performances. The course integrates with local English standards, allowing for flexibility in instruction. Students learn to synthesize information from multiple sources, express their own perspectives through written essays, and deliver oral and visual presentations individually or as part of a team. Assessment in the course includes two through-course performance tasks and an end-of-course exam, with the final AP score being calculated on a 1-5 scale. **2 credit, 2 semester course.**

### **ENGLISH 11 – Grade 11 (IDOE #1006)**

An integrated English course based on the Indiana Academic Standards for English/Language Arts in Grades 11-12, is a study of language, literature, composition, and oral communication focusing on literature with an appropriate level of complexity for this grade band. Students use literary interpretation, analysis, comparisons, and evaluation to read and respond to representative works of historical or cultural significance appropriate in classic and contemporary literature balanced with nonfiction. Students write narratives, responses to literature, academic essays (e.g. analytical, argumentative, expository, summary), and more sustained research assignments incorporating visual information in the form of pictures, graphs, charts and tables. Students write and deliver grade-appropriate multimedia presentations and access, analyze, and evaluate online information. **Outside reading and homework are required. 2 credit, 2 semester course.**

### **AP ENGLISH LANGUAGE AND COMPOSITION – Grade 11 or 12 (IDOE #1056)**

AP English Language and Composition is a course based on the content established and copyrighted by the College Board. The course is not intended to be used as a dual credit course. The course focuses on the development and revision of evidence-based analytic and argumentative writing and the rhetorical analysis of nonfiction texts. The course aligns to an introductory college-level rhetoric and writing curriculum, which requires students to develop evidence-based analytic and argumentative essays that proceed through several stages or drafts. Students evaluate, synthesize, and cite research to support their arguments. Throughout the course, students develop a personal style by making appropriate grammatical choices.

Additionally, students read and analyze the rhetorical elements and their effects in non-fiction texts, including graphic images as forms of text, from many disciplines and historical periods. There is no prescribed sequence of study. **Outside reading and homework are required. 2 credit, 2 semester course.**

**\*\*\*ADVANCED COMPOSITION - Grade 11 (IDOE #1098) \*\*\* DUAL CREDIT OPPORTUNITY\*\*\***

Advanced Composition, a course based on the Indiana Academic Standards for English/Language Arts, is a study and application of the rhetorical writing strategies of exposition and persuasion. Students write expository critiques of nonfiction selections, literary criticism of fiction selections, persuasive compositions, and research reports in addition to other appropriate writing tasks. Course can be offered in conjunction with a literature course, or schools may embed Indiana Academic Standards for English/Language Arts reading standards within curriculum. **Outside reading and homework are required. 2 credit, 2 semester course. Indiana College Core Course: ENGL 111 & ENGL 215.**

**ENGLISH 12 – Grade 12 (IDOE #1008)**

An integrated English course based on the Indiana Academic Standards for English/Language Arts for Grades 11- 12, is a study of language, literature, composition, and oral communication focusing on an exploration of point of view or perspective across a wide variety of genres. Students use literary interpretation, analysis, comparisons, and evaluation to read and respond to representative works of historical or cultural significance in classic and contemporary literature balanced with nonfiction. Students write narratives, responses to literature, academic essays (e.g. analytical, argumentative, expository, summary), and more sustained research assignments incorporating visual information in the form of pictures, graphs, charts, and tables. Students write and deliver grade-appropriate multimedia presentations and access, analyze, and evaluate online information. **Outside reading and homework are required. 2 credit, 2 semester course.**

**ENGLISH AS A NEW LANGUAGE - Grade 9, 10, 11, 12 (IDOE # 1012)**

English as a New Language (English/Language Arts), an integrated English course based on the WIDA English Language Development (ELD) Standards, is the study of language, literature, composition and oral communication for English learners (ELs) so that they improve their proficiency in listening, speaking, reading, writing and comprehension of standard English. Students study English vocabulary used in fictional texts and content-area texts, speak and write English so that they can function within the regular school setting and an English-speaking society, and deliver oral presentations appropriate to their respective levels of English proficiency. This coursework addresses Indiana's Academic Standards for English/Language Arts (ELA) and is based on the general ELA curriculum and student's Individualized Learning Plan. **2 credit, 2 semester course. Repeatable for credit, up to 8 credits.**

**ENGLISH AS A NEW LANGUAGE DEVELOPMENT - (IDOE # 2188)**

English as a New Language, an integrated English course based on the WIDA English Language Development (ELD) Standards, is the study of language, literature, composition, and oral communication for English learners (ELs) so that they improve their proficiency in listening, speaking, reading, writing, and comprehension of standard English. Students study English vocabulary used in fictional texts and content-area texts, speak and write English so that they can function within the regular school setting and an English-speaking society, and deliver oral presentations appropriate to their respective levels of English proficiency.

**\*\*\*ADVANCED ENGLISH LANGUAGE ARTS, COLLEGE CREDIT - Grade 12 (IDOE #1124)\*\*\*DUAL CREDIT OPPORTUNITY\*\*\***

Advanced English/Language Arts, College Credit, is an advanced course based on the Indiana Academic Standards for English/Language Arts in grades 11 and 12. This course title covers any English language and composition advanced course offered for credit by an accredited post-secondary institution through an adjunct agreement with a secondary school. **Outside reading and homework are required. 2 credit, 2 semester course. Indiana College Core Course: ENGL 206 & ENGL 221.**

**\*\*\*FUNDAMENTALS OF PUBLIC SPEAKING – Grades 11, 12 (IDOE #1078) \*\*\* DUAL CREDIT OPPORTUNITY\*\*\***

Fundamentals of Public Speaking introduces fundamental concepts and skills for effective public speaking, including audience analysis, outlining, research, delivery, critical listening and evaluation, presentational aids, and use of appropriate technology. Prerequisites: Demonstrated competency through appropriate assessment. **1 credit, 1 semester course Indiana College Core Course: COMM 101**

**CCR BRIDGE: LITERACY READY - Grade 12 (IDOE #1014)**

This course is an innovative, dynamic course built to help students master the literacy skills needed for three core subject areas - English, social science and science. CCR Bridge Literacy Ready consists of six units, two in history, two in English and two in science. Content of each of the disciplines is at the forefront of the curriculum, while disciplinary literacy skills are emphasized through reading and writing assignments based on the content. The focus is on truly understanding how to read and interpret texts in the discipline on a college level. Students in this course want to be college bound, but have not met the requirements necessary to fulfill that goal. Fulfills an English/Language Arts requirement for all Diploma types. **2 credit, 2 semester course.**

**AP ENGLISH LITERATURE AND COMPOSITION – Grade 12 (IDOE #1058)**

AP English Literature and Composition is a course based on the content established and copyrighted by the College Board. The course is not intended to be used as a dual credit course. The course engages students in the close reading and critical analysis of imaginative literature to deepen their understanding of the ways writers use language to provide both meaning and pleasure. As they read, students consider a work's structure, style, and

themes, as well as its use of figurative language, imagery, symbolism, and tone. Writing assignments include expository, analytical, and argumentative essays that require students to analyze and interpret literary works. **2 credit, 2 semester course.**

#### **CREATIVE WRITING - Grades 10, 11, 12 (IDOE #1092)**

Creative Writing, a course based on the Indiana Academic Standards for English/Language Arts, is a study and application of the rhetorical writing strategies for prose and poetry. Using the writing process, students demonstrate a command of vocabulary, the nuances of language and vocabulary, English language conventions, an awareness of the audience, the purposes for writing, and the style of their own writing. Course can be offered in conjunction with a literature course, or schools may embed Indiana Academic Standards for English/Language Arts reading standards within curriculum. **1 credit, 1 semester course.**

#### **FILM LITERATURE – Grades 10, 11, 12 (IDOE #1034)**

Film Literature, a course based on the Indiana Academic Standards for English/Language Arts, is a study of how literature is adapted for film or media and includes role playing as film directors for selected screen scenes. Students read about the history of film, the reflection or influence of film on the culture, and issues of interpretation, production and adaptation. Students examine the visual interpretation of literary techniques and auditory language in film and the limitations or special capacities of film versus text to present a literary work. Students analyze how films portray the human condition and the roles of men and women and the various ethnic or cultural minorities in the past and present. Courses can be offered in conjunction with a composition course, or schools may embed Indiana Academic Standards for English/Language Arts reading standards within curriculum. **1 credit, 1 semester course.**

#### **DEVELOPMENTAL READING - Grades 9, 10,11,12 (IDOE #1120)**

Developmental Reading is a supplemental course that provides students with individualized instruction designed to support success in completing coursework aligned with the Indiana Academic Standards for English/Language Arts focusing on the Reading Standards for Literature and Nonfiction. All students should be concurrently enrolled in an English course in which class work will address all of the Indiana Academic Standards. **1 credit, 1 semester - repeatable for credit. Elective credit only.**

#### **MASS MEDIA - Grades 10, 11, 12 (IDOE #1084)**

This semi-laboratory structured class is a prerequisite for Student Publications and leadership roles on the high school newspaper, *The Madisonian*, and the video newscast show, *Time Out News*. The class is geared for students who like to interact with people, write stories, express opinions in a responsible manner and create graphic packages. To produce exemplary leaders for the two journalism media courses, the class focuses on developing interviewing, writing and editing skills, and examines the legal and ethical aspects of publishing/broadcasting as well as the history of American newspapers, including *The Madison Courier*. Students also closely examine the work of professional journalists as well as learn to judge media critically and understand the use of persuasive language and strategies. Students have the option to attend regional and state journalism conferences with the Student Publications class. In addition, each student serves as a mini-advertising agency for one or more local business/industry. Students who successfully complete the Mass Media class with a B or better may move into Student Publications with approval from journalism adviser. **Success in this class greatly depends on creativity, team camaraderie, self-motivation, strong leadership skills, and good academic performance, including sound command of grammar and spelling basics. 2 credit, 2 semester course. Fulfills an elective credit only.**

#### **STUDENT PUBLICATIONS: NEWSPAPER - Grades 10, 11, 12 (IDOE #1086)**

This laboratory-based class is responsible for the production of the video newscast *Time Out News* and the high school newspaper, *The Madisonian*. Students work in teams to determine the media's content, editorial/opinion focus and visual/graphic packaging. To learn from the pros, students also closely examine the work of professional journalists and publications, and serve as a mini-advertising agency for several local businesses/industries. Since the content and visual/graphic packaging of every newscast/newspaper edition changes, the class may be repeated for additional credits. This course fulfills the Fine Arts requirement for the AHD or THD. **Success in this class greatly depends on exemplary writing and/or advertising skills, teamwork, camaraderie and personal commitment. 2 credit, 2 semester course. Fulfills a Fine Arts requirement.**

#### **STUDENT PUBLICATIONS: YEARBOOK - Grades 10, 11, 12 (IDOE #1086)**

This laboratory structured class is responsible for the creation and production of the high school yearbook. Using a variety of computer based software, the students will determine the publication's design, photographic content, and printed copy. Course content will include instruction and practice in the gathering and analyzing of information, publication layout and design, photography, typography, as well as the business aspects associated with yearbook publication. Examples of amateur and professional photojournalism will also be studied. Students who enroll in this class **must** be able to attend functions during non-school hours to take pictures, gather information, and sell advertising and yearbooks. Success in this class depends on creativity, teamwork, self-motivation, working with professional yearbook personnel, strong interpersonal skills, and the ability to meet multiple deadlines. Prior word processing and photography experience would be helpful. This course fulfills the Fine Arts requirement for the AHD or THD. Student interviews are required. **2 credit, 2 semester course. Fulfills a Fine Arts requirement.**

#### **COMPOSITION – Grade 11, 12 (IDOE # 1090)**

Composition is a study and application of the rhetorical writing strategies of narration, description, exposition, and persuasion. Using the writing process, students demonstrate a command of vocabulary, English language conventions, research and organizational skills, an awareness of the audience, the purpose for writing, and style. Students read classic and contemporary literature or articles and use appropriate works as models for writing. Students focus on the synthesis of information through analysis of text, researching, and argumentative writing. This course is a preparatory course for students wishing to attend a traditional college or university. **Prerequisite English 9 & 10. 1 credit, 1 semester course.**

**EXPOSITORY WRITING – Grade 11, 12 (IDOE # 1094)**

Expository Writing is a study and application of the various types of informational writing intended for a variety of different audiences. Using the writing process, students demonstrate a command of vocabulary, English language conventions, research and organizational skills, an awareness of the audience, the purpose for writing, and style. This course requires a portfolio to complete the course. This course is a preparatory course for students wishing to attend a traditional college or university. **Prerequisite English 9 & 10. 1 credit, 1 semester course.**

**SHORT STORIES – Grade 10, 11, 12 (IDOE # 1046)**

Short Stories is a study of the distinct features of the short story, such as tightly focused narrative fiction. The course may be organized by historical periods, themes, or authors. Students examine short stories with modernist and contemporary themes by a variety of authors from the perspective of audience, purpose, and historical development. **Prerequisite English 9. Students may be enrolled in English II concurrently. 1 credit, 1 semester course.**

**GRAMMAR – Grade 9, 10, 11, 12 (IDOE # 1062)**

Grammar, a course based on the Indiana Academic Standards for English/Language Arts, is a study of the English language system. Students examine and apply the conventions of oral and written expression that include syntax, usage, punctuation, and spelling. Students learn grammatical terminology, study grammar in the context of reading and writing, and apply grammatical concepts in writing and speaking. **Students may be enrolled in any of the English courses concurrently. 1 credit, 1 semester course.**

**ETYMOLOGY – Grade 11, 12 (IDOE # 1060)**

Etymology, a language studies course based on the Indiana Academic Standards for English/Language Arts, is the study and application of the derivation of English words and word families from their roots in ancient and modern languages (Latin, Greek, Germanic, and Romance Languages). Students analyze the meanings of English words by examining roots, prefixes, and suffixes. Students analyze the connotative and denotative meaning of words in a variety of contexts and the reasons for language change. Students write about word history and semantics in texts that require etymological sensitivity, such as Renaissance poetry or works in translation. **1 credit, 1 semester course.**

## **WORLD LANGUAGE**

Credits earned in three years of one world language or two years of *two different* world languages meet Academic Honors Diploma requirements. Students should expect to study a minimum of 15-30 minutes a day outside of the classroom as well as practice speaking the language aloud inside the classroom to achieve success in foreign language.

**FRENCH I - Grades 9, 10, 11, 12 (IDOE #2020)**

French I provides instruction enabling students to discuss the many reasons for learning languages and to develop an understanding of the people who speak them. Students are able to apply effective strategies for language learning and show a willingness to experience various aspects of the Francophone culture. The course provides students with opportunities to respond to and give oral directions and commands and to make routine requests in the classroom and in public places; to understand and use appropriate forms of address in courtesy expressions and be able to tell about daily routines and events; to ask and answer simple questions and participate in brief guided conversations related to their needs and interest; to read isolated words and phrases in a situational context, such as menus, signs, and schedules; to comprehend brief written directions and information; to read short narrative texts on simple topics; and to write familiar words and phrases in appropriate contexts and respond in writing to various stimuli. Additionally, students learn about nonverbal communication, such as gestures and body language; about awareness of current events in the Francophone culture; the major holidays and geographical features of the Francophone countries being studied; greeting and leave taking behaviors in a variety of social situations; the appropriate way to respond to introductions and use courtesy behaviors; and appropriate etiquette in a variety of social settings. **2 credit, 2 semester course.**

**FRENCH II - Grades 10, 11, 12 (IDOE #2022)**

French II enables students to participate in classroom and extracurricular activities related to the French language as well as to participate in conversations dealing with daily activities and personal interests. Students learn to ask questions regarding routine activities; participate in conversations on a variety of topics; relate a simple narrative about a personal experience or event; interact in a variety of situations to meet personal needs, such as asking permission, asking for or responding to an offer of help, and expressing preferences pertaining to everyday life; understand main ideas and facts from simple texts over familiar topics; read aloud with appropriate intonation and pronunciation; and write briefly in response to given situations, for example postcards, personal notes, phone messages, and directions, as well as write letters using culturally appropriate format and style. Additionally, students become familiar with major geographical features, historical events, and political structures of Francophone countries as well as with different aspects of the culture, including the visual arts, architecture, literature and music, using French where appropriate; they are able to extend and respond to hospitality as a host or a guest and to be aware of time expectations, such as arriving for appointments and social engagements. **Prerequisite: Grade C or higher in French I or teacher recommendation. 2 credit, 2 semester course.**

**FRENCH III - Grades 11, 12 (IDOE #2024)**

French III enables students to understand and appreciate other cultures by comparing social behaviors and values of people using French. Students are willing to initiate and participate in discussions concerning the Francophone cultures. In addition, students are able to respond to factual and

interpretive questions and interact in a variety of social situations, such as expressing regrets, condolences, and complaints, and using more than rote memory formula phrases; read for comprehension from a variety of authentic materials, such as advertisements in newspapers and magazines, and cartoons and personal correspondence; read short literary selections of poetry, plays, and short stories; complete authentic forms and documents and take notes that require familiar vocabulary and structures; write paraphrases, summaries, and brief compositions; describe different aspects of the culture, using French where appropriate, seek help in a crisis situation and participate appropriately at special family occasions. **Prerequisite: Grade C or higher in French II or teacher recommendation. 2 credit, 2 semester course.**

#### **FRENCH IV - Grades 11, 12 (IDOE #2026)**

French IV enables students to participate in classroom and extra-curricular activities related to the French language, such as taking leadership roles in language clubs. This course also enables students to respond to factual and interpretive questions, interact in complex social situations, and express opinions and make judgments; give presentations on cultural topics including: traditions, historical and contemporary events, and major historical and artistic figures; paraphrase or restate what someone else has said; read for comprehension from a variety of longer authentic materials, such as newspapers and magazine articles, novels (Le Petit Prince by Antoine de Saint Exupery) and essays, as well as make judgments about what is read; write well-organized compositions on a given topic; and begin using French creatively in writing simple poetry and prose. Students also learn to adjust speech appropriate to the situation and audience and to participate appropriately in a variety of specific circumstances which could include public meetings, attending concerts, and using public transportation. **2 Credits. Prerequisite: Grade C or higher in French III or teacher recommendation. 2 credit, 2 semester course.**

#### **AP FRENCH LANGUAGE AND CULTURE - Grades 11, 12 (IDOE #2032)**

AP French Language and Culture is a course established and copyrighted by the College Board and follows the College Board course guidelines for AP French Language and Culture. The course prepares students to be successful on the AP French Language and Culture exam. The course is not intended to be used as a dual credit course. The AP French Language and Culture course emphasizes communication (understanding and being understood by others) by applying interpersonal, interpretive, and presentational skills in real-life situations. This includes vocabulary usage, language control, communication strategies, and cultural awareness. The AP French Language and Culture course 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 French. The AP French Language and Culture course 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). **Prerequisite: Grade C or higher in French III with teacher recommendation. 2 credit, 2 semester course.**

#### **GERMAN III - Grades 11, 12 (IDOE #2044)**

German III reviews material from level II and requires students to expand their reading and speaking abilities. Students will be able to demonstrate speaking proficiency in such situations as asking for help, participating in special family occasions, and expressing regret or acceptance, complaint or praise. They will be able to read intermediate literary and authentic expository texts for comprehension and be able to respond appropriately in well-organized reflective journals and essays. Students will read stories, plays, and poems and write creatively in response. They will be able to describe various aspects of the culture, in German where appropriate, such as major historical events, political structures, value systems, visual arts, architecture, literature, and music. Students will be able to speak extemporaneously using more than rote memory formula phrases. Students are required to utilize a virtual textbook to learn material, track assignments, and complete assignments on the computer. Students are required to participate in individual, partner, and group speaking assignments. **Prerequisite: Grade C or higher in German II or teacher recommendation. 2 credit, 2 semester course.**

#### **GERMAN IV - Grades 11, 12 (IDOE #2046)**

German IV will continue offering students the opportunity to demonstrate cultural awareness and proficiency. Students will have the opportunity to demonstrate leadership in German Club and in teaching beginning students songs, dances, and simple conversations. Students will be able to adjust their speech appropriate to the formality or informality of the social situation and participate in such authentic cultural contexts as email, public meetings, attending concerts and plays, and using public transportation. Students will be aware of the relationship between various art forms in at least one major historical period and of the major literary, musical, and artistic periods and genres of Germanic culture. Students will be able to respond to factual and interpretive questions, interact in complex social situations, express opinions, and make judgments. They will give presentations on cultural topics including traditions, historical events, current events, and major historical and artistic figures. Students will be able to paraphrase what they have heard or read, write well-organized compositions, and write creatively in poetry and prose. Students will read for comprehension a variety of longer authentic materials, such as newspaper and magazine articles, novellas, essays, and plays. **Prerequisite: Grade C or higher in German III or teacher recommendation. 2 credit, 2 semester course.**

#### **AP GERMAN LANGUAGE AND CULTURE - Grades 11, 12 (IDOE #2052)**

AP German Language and Culture is a course established and copyrighted by the College Board and follows the College Board course guidelines for AP German Language and Culture. The course prepares students to be successful on the AP German Language and Culture exam. The course is not intended to be used as a dual credit course. The AP German Language and Culture course emphasizes communication (understanding and being understood by others) by applying interpersonal, interpretive, and presentational skills in real-life situations. This includes vocabulary usage, language control, communication strategies, and cultural awareness. The AP German Language and Culture course 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. The AP German Language and Culture course 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). **Prerequisite: Grade C or higher in German III with teacher recommendation. 2 credit, 2 semester course.**

### **SPANISH I - Grades 9, 10, 11, 12 (IDOE #2120)**

Spanish I enables students to discuss the reasons for learning Spanish and to develop an understanding of Spanish-speaking people and their culture. This course introduces the Spanish language and Hispanic culture to students and enables students to apply effective strategies for learning Spanish. Emphasis is placed on developing the skills of listening, speaking, reading, and writing within a cultural context. Students will be able to respond to and give oral directions and commands, make and answer requests, and ask and answer simple questions. They will be able to understand words and phrases in situational contexts, read short texts on simple topics, and write appropriate responses within situational contexts. As a result of this course, students will have basic vocabulary and structures for minimal communication. They will also have a beginning Hispanic cultural literacy, including etiquette and nonverbal communication, celebrations, current events, history, art, literature, and music. Students are required to do presentations, quizzes, and other activities orally in Spanish. Students should expect to devote at least 15 - 30 minutes each day outside of class for Spanish studies. **2 credit, 2 semester course**

### **SPANISH II - Grades 9, 10, 11, 12 (IDOE #2122)**

Spanish II enables students to participate in conversations dealing with daily activities and personal interests in Spanish. Emphasis is placed on communication in written and spoken Spanish within a cultural context. Students will be able to ask and answer questions regarding routine activities and relate simple narratives about events or personal experiences. Some skills students will acquire include asking permission, asking for or responding to an offer of help, expressing preferences, and responding politely to inquiries. Students will learn more advanced vocabulary and grammatical structures after an intensive review of beginning material, and will be able to write briefly in various situational contexts. Students will become familiar with Spanish-speaking countries and their history, geography, literature, and music. As a result of this course, students will have a more complete understanding of Spanish language and culture and will be able to comport themselves in such cultural contexts as host, guest, exchange student, visitor, interviewer, and interviewee. Students are required to do presentations, quizzes, and other activities orally in Spanish. Students should expect to devote at least 15 - 30 minutes each day outside of class for Spanish studies. **Prerequisites: Grade C or higher in Spanish I or teacher recommendation. 2 credit, 2 semester course**

### **\*\*\* SPANISH III - Grades 10, 11, 12 (IDOE #2124)\*\*\* *DUAL CREDIT OPPORTUNITY*\*\*\***

This course introduces students to intermediate Spanish. There is an increased emphasis on communication in written and spoken Spanish within a cultural context, providing students with opportunities to understand and appreciate other cultures by comparing social behaviors and values of people in Spanish. Students will develop intermediate communication skills such as seeking help in a crisis situation, participating in special family occasions, responding to factual and interpretive questions, and interacting in a variety of social situations. They will be able to express regret, complaint, condolence, and enthusiasm. Students will be able to write brief compositions and complete authentic forms and documents. They will be able to read short literary selections such as stories, poetry and plays in Spanish. As a result of this course, students will be able to communicate in the Spanish language on a more intermediate level in both speaking and writing. Students are required to do presentations, quizzes, and other activities orally in Spanish. Students should expect to devote at least 15 - 30 minutes each day outside of class for Spanish studies. **Prerequisites: Grade C or higher in Spanish II with teacher recommendation. 2 credit, 2 semester course** **Indiana College Core Course: SPAN 101 & 102**

### **\*\*\*SPANISH IV - Grades 11, 12 (IDOE #2126) \*\*\* *DUAL CREDIT OPPORTUNITY*\*\*\***

Introduces the student to an advanced level of Spanish. Emphasis is placed upon the Spanish language as a means of communication to respond to factual and interpretive questions, interact in complex social situations, express opinions, and make judgments. Students will also be able to use their own active speaking vocabulary to paraphrase what they have read or heard in Spanish. Students will read unfamiliar material written in Spanish for comprehension from a variety of longer authentic materials such as articles, novels, essays, and plays. Students will give presentations on Spanish artists, poets and writers and recognize their contributions to the arts. Students will complete an in-depth study of Spanish grammar and demonstrate their writing abilities in well-organized compositions and ongoing journal entries. Students will also write creatively in poetry and prose. Demonstrating deeper cultural literacy, students will be able to adjust speech to situation and audience and participate appropriately in specific situational contexts such as using public transportation or attending cultural events. Students will have a well-developed awareness of the relationship between various art forms in at least one major historical period, and will be aware of the major literary, musical, and artistic periods in at least one Spanish-speaking culture. Students are required to do presentations, quizzes, and other activities orally in Spanish. Students should expect to devote at least 15 - 30 minutes each day outside of class for Spanish studies. **Prerequisites: Grade C or higher in Spanish III or teacher recommendation. 2 credit, 2 semester course. Indiana College Core Course: SPAN 201 & 202**

### **AP SPANISH LANGUAGE - Grades 11, 12 (IDOE #2132)**

AP Spanish Language and Culture is a course established and copyrighted by the College Board and follows the College Board course guidelines for AP Spanish Language and Culture. The course prepares students to be successful on the AP Spanish Language and Culture exam. The course is not intended to be used as a dual credit course. The AP Spanish Language and Culture course emphasizes communication (understanding and being understood by others) by applying interpersonal, interpretive, and presentational skills in real-life situations. This includes vocabulary usage, language control, communication strategies, and cultural awareness. The AP Spanish Language and Culture course 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 Spanish. The AP Spanish Language and Culture course 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). **Prerequisite: Grade C or higher in Spanish III with teacher recommendation. 2 credit, 2 semester course.**

# MATHEMATICS

## **ALGEBRA I – Grades 9, 10, 11, 12 (IDOE #2520)**

Algebra I formalizes and extends the mathematics students learned in the middle grades. The Indiana Academic Standards for Algebra I consist of five domains: Number Systems, Expressions, and Functions; Linear Equations, Inequalities, and Functions; Systems of Linear Equations and Inequalities; Quadratic and Exponential Equations and Functions; and Data Analysis & Statistics. Students will also engage in methods for analyzing, solving, and using quadratic functions. The eight Process Standards for Mathematics apply throughout the course. Together with the content standards, the Process Standards prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations. **Meets math requirements for all diploma types 2 credit, 2 semester course.**

## **ALGEBRA I LAB - Grades 9, 10, 11, 12 (IDOE# 2516)**

Algebra I Lab is a mathematics support course for Algebra I. Algebra I Lab is taken while students are concurrently enrolled in Algebra I. This 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. However, whereas Algebra I contains exclusively grade-level content, Algebra I Lab combines standards from high school courses with foundational standards from the middle grades. **2 credit, 2 semester course.**

## **GEOMETRY – Grades 9, 10, 11, 12 (IDOE #2532)**

Geometry formalizes and extends students' geometric experiences from the middle grades. Students explore more complex geometric situations and deepen their explanations of geometric relationships, moving towards formal mathematical arguments. The Indiana Academic Standards for Geometry consist of five domains: Geometry Foundations, Triangles, Quadrilaterals and Other Polygons, Circles, and Transformations & Three-Dimensional Solids. The eight Process Standards for Mathematics apply throughout the course. Together with the content standards, the Process Standards prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations **Meets math requirements for all diploma types. Prerequisite: Algebra I. 2 credit, 2 semester course.**

## **GEOMETRY HONORS - Grade 9, 10 (IDOE #2532)**

Although the content of this course will typically be that of a Geometry course, emphasis will be placed on the rigorous preparation for advanced mathematics, providing more challenging topics than those typically found in Geometry, including formal and indirect proofs. Term projects and/or class presentations by students will be expected. **Meets math requirements for all diploma types. Prerequisite: B- or better in Algebra I or teacher recommendation. 2 credit, 2 semester course.**

## **ALGEBRA II - Grades 10, 11, 12 (IDOE #2522)**

Algebra II builds on work with linear, quadratic, and exponential functions and allows for students to extend their repertoire of functions to include polynomial, rational, and radical functions. Students work closely with the expressions that define the functions, and continue to expand and hone their abilities to model situations and to solve equations, including solving quadratic equations over the set of complex numbers and solving exponential equations using the properties of logarithms. The Indiana Academic Standards for Algebra II consist of six domains: Arithmetic and Structure of Expressions, Equations, and Functions; Function Families; Modeling with Functions and Data; Modeling with Advanced Algebra; Modeling with Data and Statistics; and Modeling with Quantities. The eight Process Standards for Mathematics apply throughout the course. Together with the content standards, the Process Standards prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations. **Meets math requirements for all diploma types. Prerequisite: Algebra I. 2 credit, 2 semester course.**

## **ALGEBRA II HONORS - Grade 10, 11 (IDOE #2522)**

Although the content of this course will typically be that of an Algebra II course, emphasis will be placed on the rigorous preparation for advanced mathematics, providing more challenging topics than those typically found in Algebra II. Term projects and/or class presentations by students will be considered. **Meets math requirements for all diploma types. Prerequisite: B- or better in Geometry or teacher recommendation. 2 credit, 2 semester course.**

## **CCR BRIDGE MATH READY- Grades 11,12 (IDOE #2514)**

The CCR Bridge: Math Ready course will include and reinforce the Algebra I, Geometry, Algebra II, and Statistics skills necessary to be ready for an entry-level college math course. This course emphasizes understanding of math concepts rather than just memorizing procedures. Math Ready students learn the context behind the procedure (e.g., why to use a certain formula or method to solve a problem). This equips them with higher-order thinking skills in order to apply math skills, functions, and concepts in different situations. The course is intended for students who currently have achieved the minimum math requirements for college entry. The content of this course is designed to enhance students' math skills so that they are ready for college-level math assignments. It is not designed to prepare students for college-level math in STEM majors. **2 credit, 2 semester course.**

## **PRIME MATH - Grades 11, 12 (IDOE # 2595)**

The PRIME Math course utilizes a curriculum developed by the Southern Regional Education Board (SREB), that includes and reinforces the Algebra I, Geometry, Algebra II, and Statistics skills necessary for postsecondary success. This course emphasizes understanding of math concepts rather than just memorizing procedures. PRIME math emphasizes students' reasoning and sense making about procedures (e.g., why to use a certain formula or

method to solve a problem). This equips them with higher-order thinking skills in order to apply math skills, functions, and concepts in different situations. The course is intended for students who currently have achieved the minimum math requirements at the secondary level, but need additional experiences to enhance their mathematical knowledge before pursuing credit-bearing courses at a postsecondary institution. In order to offer this course, the instructor must have received training by SREB or IDOE. Additionally, the school and the instructor must commit to teaching the PRIME math curriculum with fidelity **2 credit, 2 semester course.**

#### **INTEGRATED MATHEMATICS I – Grade 9, 10, 11, 12 (IDOE #2554)**

Integrated Mathematics I formalizes and extends the mathematics students learned in the middle grades. The critical areas deepen and extend understanding of linear relationships, in part by contrasting them with exponential phenomena, and in part by applying linear models to data that exhibit a linear trend. Integrated Mathematics I use properties and theorems involving congruent figures to deepen and extend understanding of geometric knowledge from prior grades. The final unit in the course ties together the algebraic and geometric ideas studied. The eight Process Standards for Mathematics apply throughout the course. Together with the content standards, the Process Standards prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations. **2 credit, 2 semester course. Counts as a Mathematics Course for all diplomas. Fulfills the Algebra I/Integrated Mathematics I requirement for all diplomas.**

#### **INTEGRATED MATH I LAB - Grades 9, 10, 11, 12 (IDOE #2518)**

Integrated Mathematics I Lab is a mathematics support course for Integrated Mathematics I. Integrated Mathematics I Lab is taken while students are concurrently enrolled in Integrated Mathematics I. This 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 six critical areas of Integrated Mathematics I Lab align with the critical areas of Integrated Mathematics I: Relationships between Quantities; Linear and Exponential Relationships; Reasoning with Equations; Descriptive Statistics; Congruence, Proof, and Constructions; and Connecting Algebra and Geometry through Coordinates. However, whereas Integrated Mathematics I 122 Indiana Department of Education High School Course Titles and Descriptions: 2024-2025 contains exclusively grade-level content, Integrated Mathematics I Lab combines standards from high school courses with foundational standards from the middle grades. **2 credit, 2 semester course.**

#### **INTEGRATED MATHEMATICS II – Grade 9, 10, 11, 12 (IDOE #2556)**

Integrated Mathematics II focuses on quadratic expressions, equations, and functions; by comparing their characteristics and behavior to those of linear and exponential relationships from Integrated Mathematics I. The need for extending the set of rational numbers arises and real and complex numbers are introduced so that all quadratic equations can be solved. The link between probability and data is explored through conditional probability and counting methods, including their use in making and evaluating decisions. The study of similarity leads to an understanding of right triangle trigonometry and connects to quadratics through Pythagorean relationships. Circles, with their quadratic algebraic representations, rounds out the course. The eight Process Standards for Mathematics apply throughout the course. Together with the content standards, the Process Standards prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations. **2 credit, 2 semester course. Counts as a Mathematics Course for all diplomas. Fulfills the Geometry/Integrated Mathematics II requirement for all diplomas.**

#### **INTEGRATED MATHEMATICS III – Grade 9, 10, 11, 12 (IDOE #2558)**

Integrated Mathematics III provides students the opportunity to pull together and apply the accumulation of learning that they have from their previous courses. They apply methods from probability and statistics to draw inferences and conclusions from data. Students expand their repertoire of functions to include polynomial, rational, and radical functions. They expand their study of right triangle trigonometry to include general triangles. Finally, students bring together all of their experiences with functions and geometry to create models and solve contextual problems. The eight Process Standards for Mathematics apply throughout the course. Together with the content standards, the Process Standards prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations. **2 credit, 2 semester course. Counts as a Mathematics Course for all diplomas. Fulfills the Algebra II/Integrated Mathematics III requirement for all diplomas.**

#### **\*\*\* PRE-CALCULUS (IDOE #2564) & TRIGONOMETRY (IDOE #2566) – Grades 10, 11, 12 \*\*\* DUAL CREDIT OPPORTUNITY\*\*\***

Pre-Calculus: Algebra extends the foundations of algebra and functions developed in previous courses to new functions, including exponential and logarithmic functions, and to sequences and series. The course provides students with the skills and understandings that are necessary for advanced manipulation of angles and measurement. Pre-Calculus: Algebra is made up of five strands: Functions; Quadratic, Polynomial, and Rational Equations and Functions; Exponential and Logarithmic Functions; Sequences and Series; and Conics. The course is designed for students who expect math to be a major component of their future college and career experiences, and as such it is designed to provide students with strong foundations for calculus and other higher-level math courses. The eight Process Standards for Mathematics apply throughout the course. Together with the content standards, the Process Standards prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations. **Prerequisite: C or better in Algebra II or Teacher recommendation. 2 credit, 2 semester course Indiana College Core Course: MATH 136 & 137**

#### **\*\*\* AP CALCULUS AB - Grade 11, 12 (IDOE #2562)\*\*\* DUAL CREDIT OPPORTUNITY\*\*\***

AP Calculus AB is a course based on the content established and copyrighted by the College Board. AP Calculus AB is equivalent to a first semester college calculus course devoted to topics in differential and integral calculus. This course covers topics in these areas, including concepts and skills of limits, derivatives, definite integrals, and the Fundamental Theorem of Calculus. The course teaches students to approach calculus concepts and

problems when they are represented graphically, numerically, analytically, and verbally, and to make connections amongst these representations. Students learn how to use technology to help solve problems, experiment, interpret results, and support conclusions. **Prerequisite: C or better in Pre-Calculus or Teacher Recommendation. Indiana College Core Course: MATH 211**

**\*\*\* AP CALCULUS BC - Grade 11, 12 (IDOE #2572)\*\*\* DUAL CREDIT OPPORTUNITY\*\*\***

AP Calculus BC is a course based on the content established and copyrighted by the College Board. AP Calculus BC is roughly equivalent to both first and second semester college calculus courses and extends the content learned in AP Calculus AB to different types of equations and introduces the topic of sequences and series. This course covers topics in differential and integral calculus, including concepts and skills of limits, derivatives, definite integrals, the Fundamental Theorem of Calculus, and series. The course teaches students to approach calculus concepts and problems when they are represented graphically, numerically, analytically, and verbally, and to make connections amongst these representations. Students learn how to use technology to help solve problems, experiment, interpret results, and support conclusions. The content of AP Calculus BC is designed to qualify the student for placement and credit in a course that is one course beyond that granted for AP Calculus AB. **Prerequisite: C or better in Calculus AB or Teacher Recommendation. Co-Requisite: 2 credit, 2 semester course. Indiana College Core Course: MATH 211.**

**AP STATISTICS – Grade 11, 12 (IDOE #2570)**

AP Statistics is a course based on the content established and copyrighted by the College Board. The course is not intended to be used as a dual credit course. The AP Statistics course is equivalent to a one-semester, introductory, non-calculus-based college course in statistics. The course introduces students to the major concepts and tools for collecting, analyzing, and drawing conclusions from data. There are four themes in the AP Statistics course: exploring data, sampling and experimentation, anticipating patterns, and statistical inference. Students use technology, investigations, problem solving, and writing as they build conceptual understanding. **Prerequisites: Successful completion of either Honors Pre-Calculus or Pre calculus or completed Honors Algebra II or Algebra II with a B or higher. 2 credit, 2 semester course.**

**\*\*\*QUANTITATIVE REASONING - Grade 11, 12 (IDOE #2550)\*\*\*DUAL CREDIT OPPORTUNITY\*\*\***

Quantitative Reasoning is a mathematics course focused on the study of numeracy, ratio and proportional reasoning, modeling, probabilistic reasoning to assess risk, and statistics. Students build knowledge of and confidence with basic mathematical/analytical concepts and operations required for problem solving, decision making, and economic productivity in real-world applications and prepare for an increasingly information-based society in which the ability to use and critically evaluate information, especially numerical information, is essential. Technology, such as computers and graphing calculators, should be used frequently. This higher-level mathematics course is designed to align with college-level quantitative reasoning courses for dual secondary/college credit. The eight Process Standards for Mathematics apply throughout the course. Together with the content standards, the Process Standards prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations. **Prerequisite: Alg II or Int. Math II. 2 credit, 2 semester course. Indiana College Core Course: MATH 123.**

**PERSONAL FINANCIAL RESPONSIBILITY - Grade (IDOE #4540)**

Personal Financial Responsibility addresses the identification and management of personal financial resources to meet the financial needs and wants of individuals and families, considering a broad range of economic, social, cultural, technological, environmental, and maintenance factors. This course helps students build skills in financial responsibility and decision making; analyze personal standards, needs, wants, and goals; identify sources of income, savings, and investing; understand banking, budgeting, record-keeping and manage risk, insurance and credit card debt. A project based approach and applications through authentic settings such as work based observations and service learning experiences are appropriate. Direct, concrete applications of mathematics proficiencies in projects are encouraged. **1 credit, 1 semester course.**

## SCIENCE

**EARTH & SPACE SCIENCE – Grades 9, 10, 11, 12 (IDOE #3044)**

This course is an investigative study of the four major branches of earth/space science: geology, oceanography, meteorology, and astronomy. Topics of study will include the history of the earth, earth processes, rocks, and minerals, an investigation of the ocean as well as the atmosphere, planetary motion, and general topics of our galaxy. Careers in earth/space science will also be considered. Students interested in studying the dynamic forces affecting the earth should take this course. **2 credit, 2 semester course. Counts as a Science course for all diplomas.**

**BIOLOGY – Grades 9, 10, 11, 12 (IDOE #3024)**

This course is based on laboratory investigations that include a study of the structures and functions of living organisms and their interactions with the environment. At a minimum, students enrolled in Biology I explore the structure and function of cells, cellular processes, and the interdependencies of organisms within populations, communities, ecosystems, and the biosphere. Students work with concepts, principles, and theories of the living environment. In addition, students enrolled in this course are expected to: (1) gain an understanding of the history and development of biological knowledge, (2) explore the uses of biology in various careers, and (3) investigate biological questions and problems related to personal needs and societal issues. **2 credit, 2 semester course. Counts as a Science course for all diplomas. Required course for all diploma types.**

**BIOLOGY HONORS - Grades 9, 10, 11, 12 (IDOE #3024)**

This course is based on laboratory investigations that include a study of the structures and functions of living organisms and their interactions with the environment. At a minimum, students enrolled in Biology I explore the structure and function of cells, cellular processes, and the interdependencies of organisms within populations, communities, ecosystems, and the biosphere. Students work with concepts, principles, and theories of the living environment. In addition, students enrolled in this course are expected to: (1) gain an understanding of the history and development of biological knowledge, (2) explore the uses of biology in various careers, and (3) investigate biological questions and problems related to personal needs and

societal issues. Expect approx. 1-2 hours outside of class per week for this class. **Prerequisite: Earning an A or B in Algebra I. 2 credit, 2 semester course. Counts as a Science course for all diplomas.**

**\*\*\*AP BIOLOGY - Grades 11, 12 (IDOE # 3020) \*\*\* DUAL CREDIT\*\*\***

AP Biology is a course based on the content established and copyrighted by the College Board. The course is not intended to be used as a dual credit course. The major themes of the course include: The process of evolution drives the diversity and unity of life, Biological systems utilize free energy and molecular building blocks to grow, to reproduce and to maintain dynamic homeostasis, Living systems store, retrieve, transmit and respond to information essential to life processes, Biological systems interact, and these systems and their interactions possess complex properties. **Prerequisites: Biology I and Chemistry I. 2 credit, 2 semester course. Indiana College Core Course: BIOL 105. Counts as a science for all diplomas.**

**INTEGRATED CHEMISTRY & PHYSICS - Grades 9,10,11,12 (IDOE #3108)**

This course introduces the fundamental concepts of scientific inquiry, the structure of matter, chemical reactions, forces, motion, and the interactions between energy and matter. This course will serve students as a laboratory-based introduction to possible future coursework in chemistry or physics while ensuring mastery of the basics of each discipline. The ultimate goal of the course is to produce scientifically literate citizens capable of using their knowledge of physical science to solve real-world problems and to make personal, social, and ethical decisions that have consequences beyond the classroom walls. **2 credit, 2 semester course. Counts as a Science course for all diplomas.**

**CHEMISTRY I - Grades 9, 10, 11, 12 (IDOE #3064)**

This course is a math-based science course that will focus 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 study the uses of chemistry in various careers and the application of chemistry by conducting investigations according to accepted procedures. **Prerequisites: Algebra I (B- or better or teacher recommendation) and Biology I. 2 credit, 2 semester course. Counts as a Science course for all diplomas.**

**CHEMISTRY I HONORS - Grade 10, 11, 12 (IDOE # 3064)**

The content of this course will parallel that of the regular Chemistry I course. Topics will also focus on extended laboratory and literature investigations of the nature of chemical changes and the role of energy in those changes. Students will explore the uses of chemistry in various careers and conduct extended laboratory investigations according to accepted procedures.

**Prerequisites: Algebra I (B- or better or teacher recommendation), Geometry, Biology I. 2 credit, 2 semester course. Counts as a Science course for all diplomas.**

**\*\*\* CHEMISTRY II - Grades 10, 11, 12 (IDOE # 3066) \*\*\*DUAL CREDIT OPPORTUNITY\*\*\***

Chemistry II is an extended laboratory, field, and literature investigations-based course. Students enrolled in Chemistry II examine the chemical reactions of matter in living and nonliving materials. Based on the unifying themes of chemistry and the application of physical and mathematical models of the interactions of matter, students use the methods of scientific inquiry to answer chemical questions and solve problems concerning personal needs and community issues related to chemistry. **Prerequisite: Chemistry I or ICP or Biology I, Algebra II. 2 credit, 2 semester course. Indiana College Core Course: CHEM 101. Counts as a Science course for all diplomas.**

**\*\*\*AP CHEMISTRY - Grades 10, 11, 12 (IDOE # 3060) \*\*\* DUAL CREDIT OPPORTUNITY\*\*\***

*Chemistry, Advanced Placement* is a course based on the content established by the College Board. The content includes: (1) structure of matter: atomic theory and structure, chemical bonding, molecular models, nuclear chemistry; (2) states of matter: gases, liquids and solids, solutions; and (3) reactions: reaction types, stoichiometry, equilibrium, kinetics and thermodynamics. A comprehensive description of this course can be found on the College Board AP Central Course Description web page at: <http://apcentral.collegeboard.com/apc/public/courses/descriptions/index.html>. **Prerequisite: Pre-Calc, Chemistry I. 2 credit, 2 semester course. Indiana College Core Course: CHEM 105. Counts as a Science course for all diplomas.**

**\*\*\*HEALTHCARE FUNDAMENTALS - Grades 10, 11, 12 (IDOE # 5274) \*\*\* DUAL CREDIT OPPORTUNITY\*\*\***

Medical Terminology 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, all taught within the context of body systems. This course builds skills in pronouncing, spelling, and defining new words encountered in verbal and written information in the healthcare industry. Students have the opportunity to acquire essential skills for accurate and logical communication, and interpretation of medical records. Emphasis is on forming a foundation of a medical vocabulary including; appropriate and accurate meaning, spelling, and pronunciation of medical terms, and abbreviations, signs, and symbols. **2 credit, 2 semester course. Ivy Tech Dual Credit Available in HLHS 101 – 3 credits. Counts as Directed Elective or Elective for all diplomas.**

**\*\*\*ANATOMY & PHYSIOLOGY – Grades 10, 11, 12 (IDOE # 5276)\*\*\*DUAL CREDIT OPPORTUNITY\*\*\***

Students will investigate concepts related to health Science, with emphasis on interdependence of systems and contributions of each system to the maintenance of a healthy body. Introduces students to the cell, which is the basic structural and functional unit of all organisms, and covers tissues, integument, skeletal, muscular and nervous systems as an integrated unit. Through instruction, including laboratory activities, students apply concepts associated with Human Anatomy & Physiology. Students will understand the structure, organization and function of the various components of the healthy body in order to apply this knowledge in all health related fields. High academic level and rigor. **Prerequisites: Chemistry 1 or ICP, Biology. 2 credit, 2 semester course. Required co-requisite is Advanced Science College Credit (IDOE 3090). Ivy Tech Dual Credit Available in APHY 101 & APHY 102 - 3 credits. Counts as a Science course for all diplomas.**

**\*\*\*3090 ADVANCED SCIENCE, COLLEGE CREDIT – Grades 11, 12 (IDOE #3090) \*\*\*DUAL CREDIT OPPORTUNITY\*\*\***

Advanced Science College Credit is a title that covers (1) any science course offered for credit by an accredited post-secondary institution through an adjunct agreement with a secondary school, or (2) any other post-secondary science course offered for dual credit under the provisions of 511 IAC 6-10.

**ENVIRONMENTAL SCIENCE - Grades 10, 11, 12 (IDOE # 3010)**

Environmental Science is an interdisciplinary course that integrates biology, earth science, chemistry, and other disciplines. Students enrolled in this course conduct in-depth scientific studies of environmental systems, flow of matter and energy, natural disasters, environmental policies, biodiversity, population, pollution, and natural and anthropogenic resource cycles. Students formulate, design, and carry out laboratory and field investigations as an essential course component. Students completing Environmental Science, acquire the essential tools for understanding the complexities of national and global environmental systems. **Prerequisites: Two credits science coursework. 2 credit, 2 semester course. Counts as a Science course for all diplomas.**

**AP ENVIRONMENTAL SCIENCE - Grades 11, 12 (IDOE # 3012)**

AP Environmental Science is a course based on content established and copyrighted by the College Board. The course is not intended to be used as a dual credit course. Students enrolled in AP Environmental Science investigate the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human-made, to evaluate the relative risks associated with these problems, and to examine alternative solutions for resolving and/or preventing them. **Prerequisites: Biology and Chemistry. 2 credit, 2 semester course. Counts as a science course for all diplomas. Qualifies as a quantitative reasoning course.**

**PHYSICS I - Grades 10, 11, 12 (IDOE # 3084)**

Physics I is a course focused on the following core topics: constant velocity; constant acceleration; forces; energy; linear momentum in one dimension; simple harmonic oscillating systems; mechanical waves and sound; simple circuit analysis. Instruction should focus on developing student understanding that scientific knowledge is gained from observation of natural phenomena and experimentation by designing and conducting investigations guided by theory and by evaluating and communicating the results of those investigations according to accepted procedures.

**Prerequisite: Biology I, Chemistry I, Algebra II or Integrated Chemistry/Physics. 2 credit, 2 semester course. Counts as a Science course for all diplomas.**

**\*\*\*PHYSICS II - Grades 10, 11, 12 (IDOE # 3086)\*\*\*DUAL CREDIT OPPORTUNITY\*\*\***

Physics II is an extended laboratory, field, and literature investigations-based course. Students enrolled in Physics II investigate physical phenomena and the theoretical models that are useful in understanding the interacting systems of the macro- and microcosms. Students extensively explore the unifying themes of physics, including such topics and applications of physics as energy and momentum in two dimensions; temperature and thermal energy transfer; fluids; electricity; simple and complex circuits; magnetism; electromagnetic induction; geometric optics; particle and wave nature of light; modern physics. Use of laboratory activities aimed at investigating physics questions and problems concerning personal needs and community issues related to physics are embedded within the course. **Prerequisites: Chemistry 1 Honors and completed or concurrently enrolled in Pre-cal Trig. 2 credit, 2 semester course; Indiana College Core Course: SCIN 111. Counts as a Science course for all diplomas.**

**\*\*\*AP PHYSICS I – Grade 10, 11, 12 (IDOE # 3080) \*\*\* DUAL CREDIT OPPORTUNITY\*\*\***

AP Physics 1 is a course based on the content established and copyrighted by the College Board. AP Physics 1: Algebra-based is equivalent to a first-semester college course in algebra-based physics. The course covers Newtonian mechanics (including rotational dynamics and angular momentum); work, energy, and power; mechanical waves and sound. It will also introduce electric circuits. **Prerequisites: Biology I, Chemistry I, Pre-Calc/Trig. Concurrently taking Calculus. 2 credit, 2 semester course.**

**Note: Ivy Tech Dual Credit Available in PHYS 101 – 4 credits. Counts as a Science course for all diplomas.**

**\*\*\*AP PHYSICS II - Grade 10, 11, 12 (IDOE #3081) \*\*\*DUAL CREDIT OPPORTUNITY\*\*\***

AP Physics 2 is a course based on the content established and copyrighted by the College Board. AP Physics 2: Algebra-based is equivalent to a second-semester college course in algebra-based physics. The course covers fluid mechanics; thermodynamics; electricity and magnetism; optics; atomic and nuclear physics. **Recommended Prerequisites: AP Physics 1: Algebra-based. 2 credits, 2 semester course. Note: Ivy Tech Dual Credit Available in PHYS 102 – 4 credits. Counts as a science course for all diplomas. Qualifies as a quantitative reasoning course.**

**\*\*\* ADVANCED LIFE SCIENCE, ANIMALS – Grades 10, 11,12 (IDOE # 5070)\*\*\* DUAL CREDIT OPPORTUNITY\*\*\***

Advanced Life Science: Animals provides students with opportunities to participate in a variety of activities including laboratory work. Students will explore concepts related to history and trends in animal agriculture as related to animal welfare, husbandry, diseases and parasites, laws and practices relating to handling, housing, environmental impact, global sustainable practices of animal agriculture, genetics, breeding practices, biotechnology uses, and comparative knowledge of anatomy and physiology of animals used in animal agriculture. **Prerequisite: Biology 1, Chemistry 1 or ICP. This course is in the Animal Science Pathway. 2 credit, 2 semester course. Note: Ivy Tech Dual Credit Available in AGRI 107. Counts as a Science course for all diploma types.**

**\*\*\* ADVANCED LIFE SCIENCE: FOODS - Grades 11, 12 (IDOE # 5072) \*\*\* DUAL CREDIT OPPORTUNITY\*\*\***

Advanced Life Science: Foods provides students with opportunities to participate in a variety of activities including laboratory work. This is a standards-based, interdisciplinary science course that integrates biology, chemistry, and microbiology in the context of foods and the global food industry. Students enrolled in this course formulate, design, and carry out food-base laboratory and field investigations as an essential course

component. Students understand how biology, chemistry, and physics principles apply to the composition of foods, the nutrition of foods, food and food product development, food processing, food safety and sanitation, food packaging, and food storage. Students completing this course will be able to apply the principles of scientific inquiry to solve problems related to biology, physics, and chemistry in the context of highly advanced industry applications of foods. **Prerequisite: Biology 1, Chemistry 1 or ICP. This course is in the Food Science Pathway . 2 credit, 2 semester course. Note: Ivy Tech Dual Credit Available in AGRI 108 – 3 credits. Counts as a Science course for all diploma types.**

#### **ADVANCED SCIENCE, SPECIAL TOPICS – Grade 11, 12 (IDOE # 3092)**

*Advanced Science, Special Topics* is any science course that is grounded in extended laboratory, field, and literature investigations into one or more specialized science disciplines, such as anatomy/physiology, astronomy, biochemistry, botany, ecology, electromagnetism, genetics, geology, nuclear physics, organic chemistry, etc. Students enrolled in this course engage in an in-depth study of the application of science concepts, principles, and unifying themes that are unique to that particular science discipline and that address specific technological, environmental or health-related issues. Under the direction of a science advisor, students enrolled in this course will complete an end-of-course project and presentation, such as a scientific research paper or science fair project, integrating knowledge, skills, and concepts from the student's course of study. Individual projects are preferred, but group projects may be appropriate if each student in the group has specific and unique responsibilities. **Prerequisite Chemistry. 1 credit, 1 semester course; may be offered for successive semesters.**

#### **LIFE SCIENCE – Grade 9, 10, 11, 12 (IDOE # 3030)**

Life Science is an introduction to biology course. Students develop problem-solving skills and strategies while performing laboratory and field investigations of fundamental biological concepts and principles. Students explore the functions and processes of cells within all living organisms, the sources and patterns of genetic inheritance and variation leading to biodiversity, and the relationships of living organisms to each other and to the environment as a whole. **Counts as an elective for all credits. 1 credit, 1 semester course.**

#### **PHYSICAL SCIENCE – Grade 9, 10 ( IDOE # 3102)**

Physical Science is a course in which students develop problem-solving skills and strategies while performing laboratory and field investigations of fundamental chemical, physical, and related earth and space science concepts and principles that are related to students' interests and that address 144 Indiana Department of Education High School Course Titles and Descriptions: 2023-2024 everyday problems. Students enrolled in Physical Science will explore the structure and properties of matter, the nature of energy and its role in chemical reactions and the physical and chemical laws that govern Earth's interconnected systems and forces of nature. **1 credit, 1 semester course.**

#### **COMPUTING FOUNDATIONS FOR A DIGITAL AGE - Grade 9 (IDOE # 4565)**

Computers and the internet have revolutionized the way we access and disseminate information. As technology continues to change at an ever-increasing pace, the need for students to gain a foundational understanding of computer science is clear. Computing Foundations for a Digital Age is designed to introduce students to five major topics within computer science including computing systems, networks and the internet, data and analysis, algorithms and planning, and impacts of computing. The course introduces foundational computing concepts while exploring current events and building critical thinking, collaboration, problem solving, and other important skills that are invaluable for life in a global and technologically advancing society. **1 credit, 1 semester course.**

## **SOCIAL STUDIES**

#### **WORLD HISTORY/CIVILIZATION – Grade 10 (IDOE # 1548)**

This course is a survey of World History that places primary emphasis on the development of world civilization. The course will cover non-western as well as Western history. Using a chronological and topical approach, students will trace mankind's progress from prehistoric time to the present. Students will trace how geography affected the development of civilizations. Current problems of contemporary society will be discussed in relation to historical development of modern nations. Open to 10, 11, 12 if credit needed. **2 credit, 2 semester course**

#### **AP WORLD HISTORY Grade 10 (IDOE # 1612)**

AP World History Modern students investigate significant events, individuals, developments, and processes in historical periods from approximately 1200 CE to the present. Students develop and use the same skills, practices, and methods employed by historians: analyzing primary and secondary sources; developing historical arguments; and utilizing reasoning about comparison, causation, and continuity and change over time. The course provides six themes that students explore throughout the course in order to make connections among historical developments in different times and places: humans and the environment, cultural developments and interactions, governance, economic systems, social interactions and organization, and technology and innovation. **2 credit, 2 semester course**

#### **UNITED STATES HISTORY - Grade 11 (IDOE # 1542)**

This course meets a state graduation requirement. The major emphasis is on the history of our nation from Reconstruction to the present day. A conceptual as well as a chronological approach is followed for the course. United States Geography and its relationship to historical events is included. **2 credit, 2 semester course**

**\*\*\*AP UNITED STATES HISTORY- Grade 11 (IDOE # 1562) \*\*\* DUAL CREDIT OPPORTUNITY\*\*\***

AP United States History is a course based on the content established and copyrighted by the College Board. AP United States History focuses on developing students' abilities to think conceptually about U.S. history from approximately 1491 to the present and apply historical thinking skills as they learn about the past. Seven themes of equal importance — identity; peopling; politics and power; work, exchange, and technology; America in the world; environment and geography; and ideas, beliefs, and culture — provide areas of historical inquiry for investigation throughout the course. These require students to reason historically about continuity and change over time and make comparisons among various historical developments in different times and places. **2 credit, 2 semester course; Indiana College Core Course: HIST 101 & 102**

#### **AP PSYCHOLOGY - Grades 11, 12 (IDOE # 1558)**

AP Psychology is a course based on the content established and copyrighted by the College Board. The course is not intended to be used as a dual credit course. The AP Psychology course introduces students to the systematic and scientific study of behavior and mental processes. The AP Psychology course is equivalent to an introductory college-level psychology course. While considering the studies that have shaped the field, students explore and apply psychological theories, key concepts, and phenomena associated with major units of study, including biological bases of behavior, cognition, development, learning, social psychology, personality, and mental and physical health. Throughout the course, students apply psychological concepts and employ psychological research methods and data interpretation to evaluate claims, consider evidence, and effectively communicate ideas. **2 credit, 2 semester course**

#### **UNITED STATES GOVERNMENT - Grade 12 (IDOE # 1540)**

Government is an in-depth study of federal, state, and local government. There is specific emphasis on current issues as they affect individual rights. Opportunities for individualized work are given. Observation of local government is encouraged. **1 credit, 1 semester course**

#### **\*\*\*AP UNITED STATES GOVERNMENT AND POLITICS - Grade 12 (IDOE # 1560) \*\*\* DUAL CREDIT OPPORTUNITY\*\*\***

AP United States Government and Politics is a course based on the content established and copyrighted by the College Board. AP U.S. Government and Politics provides a college-level, nonpartisan introduction to key political concepts, ideas, institutions, policies, interactions, roles, and behaviors that characterize the constitutional system and political culture of the United States. Students study U.S. foundational 155 documents, Supreme Court decisions, and other texts and visuals to gain an understanding of the relationships and interactions among political institutions, processes, and behavior. They also engage in disciplinary practices that require them to read and interpret data, make comparisons and applications, and develop evidence-based arguments. In addition, they complete a political science research or applied civics project. **1 credit, 1 semester course; Indiana College Core Course: POLS 101**

#### **ECONOMICS - Grade 12 (IDOE # 1514)**

Economics analyzes how human beings participate in a free enterprise system. This course gives an in-depth view of scarcity, factors of production, supply and demand, market structures, the role of government, money and the role of financial institutions, economic stability and trade. The student will also examine the function of our government in the market economy. The student will have a better understanding of the current economic situation and their role in that situation. **1 credit, 1 semester course**

#### **AP MICROECONOMICS - Grade 12 (IDOE # 1566)**

AP Microeconomics is a course based on the content established and copyrighted by the College Board. The course is not intended to be used as a dual credit course. AP Microeconomics is an introductory college-level course that focuses on the principles of economics that apply to the functions of individual economic decision-makers. The course also develops students' familiarity with the operation of product and factor markets, distributions of income, market failure, and the role of government in promoting greater efficiency and equity in the economy. Students learn to use graphs, charts, and data to analyze, describe, and explain economic concepts. Topics include Basic Economic Concepts; Nature and Functions of Product Markets; Factor Markets; and Market Failure and the Role of Government. **1 credit, 1 semester course**

#### **ETHNIC STUDIES - Grades 9, 10, 11, 12 (IDOE # 1516)**

Ethnic Studies provides opportunities to broaden students' perspectives concerning lifestyles and cultural patterns of ethnic groups in the United States. This course will either focus on a particular ethnic group or groups, or use a comparative approach to the study of patterns of cultural development, immigration, and assimilation, as well as the contributions of specific ethnic or cultural groups. The course may also include analysis of the political impact of ethnic diversity in the United States. **1 credit, 1 semester course**

#### **INDIANA STUDIES - Grades 9, 10, 11, 12 (IDOE # 1518)**

Indiana Studies is an integrated course that compares and contrasts state and national developments in the areas of politics, economics, history, and culture. The course uses Indiana history as a basis for understanding current policies, practices, and state legislative procedures. It also includes the study of state and national constitutions from a historical perspective and as a current foundation of government. Examination of individual leaders and their roles in a democratic society will be included, and students will examine the participation of citizens in the political process. Selections from Indiana arts and literature may also be analyzed for insights into historical events and cultural expressions. **1 credit, 1 semester course**

#### **CURRENT PROBLEMS, ISSUES, AND EVENTS - Grade 9,10,11,12 (IDOE #1512)**

Current Problems, Issues, and Events gives students the opportunity to apply investigative and inquiry techniques to the study of significant problems or 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 studied from the viewpoint of the social science disciplines. Community service programs and internships within the community may be included. **1 credit, 1 semester course**

### **SOCIOLOGY - Grade 9, 10, 11, 12 (IDOE #1534)**

Sociology allows students to study human social behavior from a group perspective. The sociological perspective is a method of studying recurring patterns in people's attitudes and actions and how these patterns vary across time, cultures, and in social settings and groups. Students describe the development of sociology as a social science and identify methods of research. Through research methods such as scientific inquiry students examine society, group behavior, and social structures. The influence of culture on group behavior is addressed through institutions such as the family, religion, education, economics, community organizations, government, and political and social groups. The impact of social groups and institutions on group and individual behavior and the changing nature of society will be examined. Influences on group behavior and social problems are included in the course. Students also analyze the role of individuals in the community and social problems in today's world. **1 credit, 1 semester course**

### **GEOGRAPHY/ HISTORY OF THE WORLD - GRADE 9, 10, 11, 12 (IDOE #1570)**

Geography and History of the World is designed to enable students to use geographical tools, skills and historical concepts to deepen their understanding of major global themes including the origin and spread of world religions; exploration; conquest, and imperialism; urbanization; and innovations and revolutions. Geographical and historical skills include forming research questions, acquiring information by investigating a variety of primary and secondary sources, organizing information by creating graphic representations, analyzing information to determine and explain patterns and trends, planning for the future, and documenting and presenting findings orally or in writing. The historical geography concepts used to explore global themes include change over time, origin, diffusion, physical systems, cultural landscapes, and spatial distribution/patterns and interaction/relationships. Students use the knowledge, tools, and skills obtained from this course in order to analyze, evaluate, and make predictions about major global developments. This course is designed to nurture perceptive and responsible citizenship, to encourage and support the development of critical thinking skills and lifelong learning, and to help prepare Indiana students for the 21st Century. **2 credit, 2 semester course**

### **TOPICS IN HISTORY - Grades 11, 12 (IDOE # 1538)**

Topics in History provides students the opportunity to study specific historical eras, events, or concepts. Development of historical research skills using primary and secondary sources is emphasized. The course focuses on one or more topics or themes related to United States or world history. Examples of topics might include: (1) twentieth-century conflict, (2) the American West, (3) the history of the United States Constitution, and (4) democracy in history. **Prerequisite: U.S. History or World History & Civilizations. 1 credit, 1 semester course**

### **PSYCHOLOGY – Grades 9, 10, 11, 12 (IDOE # 1532)**

Psychology is the scientific study of mental processes and behavior. The course is divided into eight content areas: History and Scientific Method, Biological Basis for Behavior, Development, Cognition, Personality and Assessment, Abnormal Psychology, Socio-Cultural Dimensions of Behavior, and Psychological Thinking. History and Scientific Method explores the history of psychology, the research methods used, and the ethical considerations that must be utilized. Biological Basis for Behavior focuses on the way the brain and nervous system function, including sensation, perception, motivation and emotion. Development analyzes the changes through one's life including the physical, cognitive, emotional, social and moral development. Cognition focuses on learning, memory, information processing, and language development. Personality and Assessment explains the approaches used to explain one's personality and the assessment tools used. Abnormal Psychology explores psychological disorders and the various treatments used for them. Socio-Cultural Dimensions of Behavior covers topics such as conformity, obedience, perceptions, attitudes and influence of the group on the individual. Psychological Thinking explores how to think like a psychologist and expand critical thinking skills needed in the day-to-day life of a psychologist. **1 credit, 1 semester course, repeatable.**

## **PHYSICAL EDUCATION**

### **ALTERNATIVE SUPERVISED PHYSICAL EDUCATION PROGRAM – Grades 9, 10, 11 (IDOE #3542 & #3544)**

Students may earn their physical education requirements through a supervised program during the fall and/or spring sessions. Minimum requirements include sixty (60) hours of direct instruction and successful completion of sports/ band season. An application must be approved by the student's school counselor PRIOR to PE I / II being removed from the student's schedule. Students will have one opportunity to successfully complete this course, failure to do so will result in a failure on their transcript. The student will be required to recover the credit in a traditional PE course. **1 credit, 1 semester course**

### **PHYSICAL EDUCATION I - Grades 9, 10, 11, 12 (IDOE # 3542)**

Physical Education I is required for graduation. This is the first of two required courses. This is a planned, sequential, and comprehensive course designed to provide students with opportunities to actively participate in team sport activities, individual physical activities, and outdoor pursuits. Ongoing assessment includes both written and performance-based skill evaluation. **1 credit, 1 semester course**

### **PHYSICAL EDUCATION II - Grades 9, 10, 11, 12 (IDOE # 3544)**

Physical Education II is required for graduation. This is the second of two required physical education courses and will run consecutively to physical education I. This is a planned, sequential, and comprehensive course designed to provide students with opportunities to actively participate in team sport activities, individual physical activities, and outdoor pursuits. Ongoing assessment includes both written and performance-based skill evaluation. **1 credit, 1 semester course**

**ELECTIVE PHYSICAL EDUCATION - Grades 9, 10, 11, 12 (IDOE # 3560)**

This is an elective course designed for advanced, highly motivated students interested in an intense physical fitness workout daily. The goal of the class is to provide students with an appropriate level of cardiorespiratory endurance, muscular strength and endurance, flexibility, and body composition necessary for a healthy and productive life. This course is also designed for any students interested in weight training and strength development to improve athletic performance. Students will stretch, lift weights, and run daily in a structured program. Students will have an opportunity to design and develop an appropriate personal fitness program that enables them to achieve a desired level of fitness. In addition, students will have the opportunity to study physical development concepts and principles of sport and exercise as well as opportunities to develop or refine skills and attitudes that promote lifelong fitness. Ongoing assessment includes both written and performance-based skill evaluation. *An additional lab fee will be required for some off campus activities.* **Prerequisite: Physical Education I & II. 1 credit, 1 semester course; repeatable for up to 8 credits**

**AGRICULTURE**

**AGRISCIENCE PATHWAY - NLPS**

7117 Principles of Agriculture	5008 Animal Science - NLPS	5102 Food Science 5070 Adv. Life Science Animals 5072 Adv. Life Science Food Sc	7262 Ag Research Capstone 7238 Agribusiness Capstone
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**\*\*\* PRINCIPLES OF AGRICULTURE- Grades 9,10 (IDOE # 7117) \*\*\* DUAL CREDIT OPPORTUNITY\*\*\***

Students will explore Agriculture, Food, and Natural Resource (AFNR) systems related to the production of food, fiber and fuel and the associated health, safety and environmental management systems. Topics covered in the course range from animals, plants, food, hunter safety, natural resources, ag power, structures and technology, and agribusiness. Participation in FFA and Supervised Agricultural Experiences (SAE) will be an integral part of this course in order to develop leadership and career-ready skills. **ITCC course AGRI 100. 2 credit, 2 semester course**

**\*\*\* ANIMAL SCIENCE - Grades 10, 11, 12 (IDOE # 5008)\*\*\* DUAL CREDIT OPPORTUNITY\*\*\***

This course provides students with an overview of the field of animal science. Students participate in a large variety of activities and laboratory work including real and simulated animal science experiences and projects. Students will learn through “hands-on” problem-solving individual and team activities. **Fulfills science requirement for all diplomas. Prerequisite: Principles of Agriculture, (or instructor approval). ITCC course AGRI 103. 2 credit, 2 semester course**

**\*\*\* ADVANCED LIFE SCIENCE, ANIMALS – Grades 10, 11, 12 (IDOE # 5070)\*\*\* DUAL CREDIT OPPORTUNITY\*\*\***

This course meets a CORE 40 science requirement for the Academic Honors Diploma and Core 40 Diploma. This is a hands-on laboratory-based class. Students will learn animal growth, development and physiology as it pertains to agricultural science. Topics covered include taxonomy, organ systems, genetics, and ecology. This course meets the science requirement for all Diplomas. **Prerequisite: Principles of Agriculture. Fulfills Science requirement for all diplomas. ITCC Course AGRI 107. 2 credit, 2 semester course**

**\*\*\* FOOD SCIENCE - Grades 10,11,12 (IDOE # 5102)\*\*\* DUAL CREDIT OPPORTUNITY\*\*\***

This course is a program that provides students with an overview of food science and its importance. Students will learn through a project-based approach and hands-on activities. Topics covered in this course include nutrition, preservation, packaging and labeling, food commodities, food regulations, issues, and careers in food science. This course meets the directed elective requirement for the Academic Honors Diploma and Core 40 Diploma. **Prerequisite: Principles of Agriculture. ITCC Course AGRI 104. 2 credit, 2 semester course**

**\*\*\*ADVANCED LIFE SCIENCE: FOODS - Grades 11, 12 (IDOE #5072) \*\*\* DUAL CREDIT OPPORTUNITY\*\*\***

Advanced Life Science: Foods provides students with opportunities to understand how biology, chemistry and physics principles apply to the composition of foods, the nutrition of foods, food and food product development, food processing, food safety and sanitation, food packaging, and food storage. Students completing this course will be able to apply the principles of scientific inquiry to solve problems related to biology, physics, and chemistry in the context of highly advanced industry applications of foods in the area of advanced life science in foods. This course meets the science requirement for all Diplomas. **Prerequisite: Principles of Agriculture. Fulfills Science requirement for all diplomas. ITCC Course AGRI 108. 2 credit, 2 semester course**

**AGRIBUSINESS CAPSTONE – Grades 11, 12 (IDOE #7238)**

This course introduces students to the principles of business organization and management. Concepts covered in the course include; food and fiber, forms of business, finance, marketing, management, sales, careers, leadership development, and supervised agricultural experience programs. **Prerequisites: Principles of Agriculture & Animal Science. Fulfills quantitative reasoning requirement for all diplomas. 2 credit, 2 semester course**

**AGRICULTURE RESEARCH CAPSTONE - Grade 12 (IDOE 7262)**

Agricultural Research Capstone course includes extended laboratory, field, and literature investigations in one or more specialized agricultural science disciplines, such as animal, plant, food, natural resources, biotechnology, engineering, etc. Students enrolled in this course will apply scientific applications, concepts, principles, and design process to solve complex, real-world issues in agriculture. Students will become familiar with laboratory procedures used in an educational, research, or industrial setting. Students will complete an end-of-course project and presentation, such as a scientific research paper, agriscience fair project, or some other suitable presentation of their findings.

**Prerequisites: any agriculture concentrator course; independent study; 1-3 credits per semester, 6 credits max**

**AGRICULTURE POWER, STRUCTURE & TECHNOLOGY - Grades 10,11,12 (IDOE#5088) \*\*DUAL CREDIT OPPORTUNITY\*\***

Agriculture Power, Structure and Technology is a two-semester, lab-intensive course in which students develop an understanding of basic principles of tool selection, operation, maintenance, and management of agricultural equipment in concert with the utilization of technology. Topics covered include: safety, problem-solving/troubleshooting, electricity, plumbing, concrete, carpentry, metal technology, engines, emerging technologies, leadership development, supervised agricultural experience, and career opportunities in the area of agriculture power, structure, and technology.

**Prerequisites: Principles of Agriculture. ITCC Course AGRI 106. 2 credit, 2 semester Course.**

**LEADERSHIP DEVELOPMENT IN ACTION – Grades 10, 11, 12 (IDOE # 5237)**

Leadership Development in Action is a project-based course where students will learn communication, leadership, and management skills in order to conduct projects. Each student will develop goals, design and implement an action plan, and reflect on accomplishments. Membership in an Indiana recognized CTSO is required. This course meets the directed elective requirement for the Academic Honors Diploma and Core 40 Diploma. **2 credit, 2 semester course; may be repeated for up to 6 credits**

## **BUSINESS/VOCATIONAL BUSINESS**

Marketing and Sales Pathway - NLPS

4562 Principles of Business Management	5914 Marketing Fundamentals	7145 Digital Marketing - NLPS	7201 Business Management Capstone
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**\*\*\*PRINCIPLES OF BUSINESS MANAGEMENT – Grades 9, 10, 11 (IDOE #4562)\*\*\* DUAL CREDIT OPPORTUNITY\*\*\***

Principles of Business Management examines business ownership, organization principles and problems, management, control facilities, administration, financial management, and development practices of business enterprises. This course will also emphasize the identification and practice of the appropriate use of technology to communicate and solve business problems and aid in decision-making. Attention will be given to developing business communication, problem-solving, and decision-making skills using spreadsheets, word processing, data management, and presentation software. **ITCC Course BUSN 101. 2 credit, 2 semester course**

**\*\*\*MARKETING FUNDAMENTALS - Grades 11, 12 (IDOE 5914)\*\*\* DUAL CREDIT OPPORTUNITY\*\*\***

Marketing Fundamentals provides a basic introduction to the scope and importance of marketing in the global economy. Course topics include the seven functions of marketing: promotion, channel management, pricing, product/service management, market planning, marketing information management, and professional selling skills. Emphasis is marketing content but will involve use of oral and written communications, mathematical applications, problem-solving, and critical thinking skills through the development of an integrated marketing plan and other projects. **Prerequisite: Principles of Business Management. ITCC Courses MKTG 101 & MKTG 102. 2 credit, 2 semester course**

**\*\*\*DIGITAL MARKETING - Grades 10,11,12 (IDOE # 7145) \*\*\*DUAL CREDIT OPPORTUNITY\*\*\***

Digital Marketing provides an introduction to the world of e-commerce and digital marketing media. The course covers how to integrate digital media and e-commerce into organizational and marketing strategy. Students will explore e-commerce applications and the most popular digital marketing tactics and tools. Emphasizes familiarity with executing digital media, understanding the marketing objectives that digital media can help organizations achieve, and establishing and enhancing an organization's digital marketing presence. **Prerequisite: Principles of Business Management; ITCC courses MTKG 252 & MKTG 257. 2 credit, 2 semester course**

**\*\*\*BUSINESS MANAGEMENT CAPSTONE - Grades 11, 12 (IDOE #7201)\*\*\*DUAL CREDIT OPPORTUNITY\*\*\***

The Business Management Capstone is designed to provide any student with the Business Management skills necessary to run their own business or to serve in upper-level management. Students will explore Management Theory, Accounting, and Business Law. The Business Management Capstone can be used with any career pathway except Business Administration. Completion of the course may allow students the opportunity to earn a CT or TC through ITCC. **Prerequisites: Principles of Business Management, Marketing Fundamentals, & Digital Marketing. ITCC Course. 2 credit, 2 semester course.**

**WORK-BASED LEARNING: CAPSTONE - Grade 12 (IDOE # 5974)**

Work-Based Learning Capstone is a stand-alone course that prepares students for college and career. Work-Based Learning means sustained interactions with industry or community professionals in real workplace settings, to the extent practicable, or simulated environments at an educational institution that foster in-depth, first-hand engagement with the tasks required of a given career field, that are aligned to curriculum and instruction. Work Based Learning Capstone experiences occur in workplaces and involve an employer assigning a student meaningful job tasks to develop his or her skills, knowledge, and readiness for work. A clear partnership agreement and training plan is developed by the student, teacher, and workplace mentor/supervisor to guide the student's work-based experiences and assist in evaluating achievement and performance. Related Instruction shall be organized and planned around the activities associated with the student's individual job and career objectives in a pathway and shall be taught during

the same semester the student is participating in the work-based experience. For a student to become employable, the related instruction should cover: (a) employability skills, and (b) specific occupational competencies. **Credits: 1 - 3 credits per semester - 6 CREDITS maximum: Prerequisites: Complete at least one advanced career and technical education course from a program or program of study. Worksite placement must align to the student pathway. A minimum of 85 hours of workplace and classroom activities are required for one credit; 170 hours are required for the two credits. Of the 85 or 170 hours, 18 to 36 hours (at least). If a student is failing at the semester, or has not secured a job/internship, the student will be removed from the course for semester 2.**

**TECHNICAL SKILLS DEVELOPMENT - CTE WBL - Grade 11, 12 (IDOE # 7156)**

The Technical Skills Development course may be used to provide students with the opportunity to apply the technical knowledge and skills learned in a Concentrator A or B course through additional real-world learning experiences such as lab activities, project-based learning or a work-based learning experience. Students must be co-enrolled in a Concentrator A and/or B course in order to be enrolled in the Technical Skills Development course. **Concurrently enrolled in a Next Level Programs of Study Concentrator A and/or B course. 2 credit, 2 semester course**

**COOPERATIVE EDUCATION-Grade 12 (IDOE #6162 )**

Cooperative Education is an approach to employment training that spans all career and technical education program areas through school-based instruction and on-the-job training. Next Level Programs of Study 379 Time allocations are a minimum of fifteen hours per week of on-the-job training and approximately five hours per week of school-based instruction, focused on employability skills development. Additionally, all state and federal laws and regulations related to student employment and cooperative education must be followed. **Students must have a job prior to starting the class in the fall semester of their senior year along with their own transportation. 2 semester course, 1-3 credit(s) per semester, up to 6 credits maximum, If a student is failing at the semester, or has not secured a job/internship, the student will be removed from the course for semester 2.**

**4540 PERSONAL FINANCIAL RESPONSIBILITY - (IDOE # 4540)**

Personal Financial Responsibility addresses the identification and management of personal financial resources to meet the financial needs and wants of individuals and families, considering a broad range of economic, social, cultural, technological, environmental, and maintenance factors. This course helps students build skills in financial responsibility and decision-making; analyze personal standards, needs, wants, and goals; identify sources of income, savings, and investing; understand banking, budgeting, record-keeping and managing risk, insurance and credit card debt. A project-based approach and applications through authentic settings such as work-based observations and service learning experiences are appropriate. Direct, concrete applications of mathematics proficiencies in projects are encouraged. **1 credit, 1 semester course.**

**BUSINESS MATH - Grades 10, 11 (IDOE # 4512)**

Business Math is a course designed to prepare students for roles as entrepreneurs, producers, and business leaders by developing abilities and skills that are part of any business environment. A solid understanding of math including algebra, basic geometry, statistics, and probability provides the necessary foundation for students interested in careers in business and skilled trade areas. The content includes mathematical operations related to accounting, banking and finance, marketing, and management. Instructional strategies should include simulations, guest speakers, tours, Internet research, and business experiences. **Required Prerequisites: Algebra I. 2 credit, 2 semester course. Counts as a quantitative reasoning course. Counts as an elective or directed elective for all diplomas. Fulfills a Mathematics requirement for the General Diploma or Certificate of Completion only.**

**ENTREPRENEURSHIP**

7154 Principles of Entrepreneurship	7148 New Venture Development	7147 Small Business Operations	7201 Business Management Capstone
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**PRINCIPLES OF ENTREPRENEURSHIP - Grades 9,10,11,12 (IDOE # 7154)**

Principles of Entrepreneurship focuses on students learning about their own strengths, character and skills and how their unique abilities can apply to entrepreneurship, as well as how an entrepreneurial mindset can serve them regardless of their career path. Students will learn about the local, regional and state resources and will begin to understand and apply the entrepreneurial process. The course helps students to identify and evaluate business ideas while learning the steps and competencies required to launch a successful new venture. The course helps students apply what they have learned from the content when they write a Personal Vision Statement, a Business Concept Statement, and an Elevator Pitch. **2 credit, 2 semester course.**

**NEW VENTURE DEVELOPMENT - Grades 10, 11, 12 (IDOE# 7148)**

New Venture Development is targeted to students interested in creating and growing their own businesses. The course will focus on key marketing strategies particularly relevant for new ventures. Students will apply marketing concepts to entrepreneurial company challenges, which include creating and nurturing relationships with new customers, suppliers, distributors, employees, and investors; and understand the special challenges and opportunities involved in developing marketing strategies "from the ground up." **Required Prerequisite: Principles of Entrepreneurship. 2 credit, 2 semester course.**

### **SMALL BUSINESS OPERATIONS - Grades 10, 11, 12 (IDOE# 7147)**

Small Business Operations will help students identify and evaluate the various sources available for funding a new enterprise; demonstrate an understanding of financial terminology; read, prepare, and analyze basic financial statements; estimating capital requirements and risk, exit strategies; and prepare a budget for their business, including taxes and personnel costs. In addition, the student should be able to explain the importance of working capital and cash management. The student should also be able to identify financing needs, and prepare sales forecasts. **Required Prerequisites: Principles of Entrepreneurship; New Venture Development. 2 credit, 2 semester course.**

## **GRAPHICS**

### **GRAPHIC DESIGN AND LAYOUT - Grade 10, 11, 12 (IDOE #5550)**

Graphic Design and Layout teaches design process and the proper and creative use of type as a means to develop effective communications for global, corporate and social application. Students will create samples for a portfolio, which may include elements or comprehensive projects in logo, stationery, posters, newspaper, magazine, billboard, and interface design. **Prerequisite - Principles of Digital Design. 2 credit, 2 semester course**

## **FAMILY AND CONSUMER SCIENCES**

### Culinary Arts Pathway - NLPS

7173 Principles of Culinary and Hospitality	7171 Nutrition	7169 Culinary Arts	7233 Culinary Capstone 7235 Baking and Pastry Capstone
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### **\*\*\*PRINCIPLES OF CULINARY & HOSPITALITY - (IDOE # 7173)**

Principles of Culinary and Hospitality is designed to develop an understanding of the hospitality industry and career opportunities, and responsibilities in the food service and lodging industry. Introduces procedures for decision making which affects operation management, products, labor, and revenue. Additionally, students will learn the fundamentals of food preparation, basic principles of sanitation, service procedures, and safety practices in the food service industry including proper operation techniques for equipment.

### **\*\*\*NUTRITION- (IDOE# 7171)**

Nutrition students will learn the characteristics, functions and food sources of the major nutrient groups and how to maximize nutrient retention in food preparation and storage. Students will be made aware of nutrient needs throughout the life cycle and to apply those principles to menu planning and food preparation. This course will engage students in hands-on learning of nutritional concepts such as preparing nutrient-dense meals or examining nutritional needs of student athletes. **Prerequisites: Principles of Culinary & Hospitality:**

### **\*\*\*CULINARY ARTS- (IDOE # 7169)**

Culinary Arts teaches students how to prepare the four major stocks, the five mother sauces (in addition to smaller sauces) and various soups. Additional emphasis is placed on the further development of the classical cooking methods. This course will also present the fundamentals of baking science including terminology, ingredients, weights and measures, and proper use and care of equipment. Students will produce yeast goods, pies, cakes, cookies, and quick breads. **Prerequisites: Principles of Culinary & Hospitality.**

### **CULINARY ARTS CAPSTONE- Grade 11, 12 (IDOE # 7233)**

This course covers the techniques and skills needed in breakfast cookery as well as insight into the pantry department. Various methods of preparation of eggs, pancakes, waffles, and cereals will be discussed. Students will receive instruction in salad preparation, salad dressing, hot and cold sandwich preparation, garnishes, and appetizers. This course also covers the necessary skills for proper recruiting, staffing, training, and management of employees at various levels. The course will help prepare the student for the transition from employee to supervisor. Additionally, it will help the student evaluate styles of leadership, and develop skills in human relations and personnel management. **Prerequisites: Principles of Culinary and Hospitality; Nutrition; Culinary Arts. 2 credit, 2 semester course**

### **BAKING AND PASTRY CAPSTONE - Grade 11,12 (IDOE # 7235)**

The objective of this course is to help students understand the science of baking and the different reactions that take place based on the ingredients, temperatures, and equipment in relation to the final product. The course requires students to produce and finish a variety of cakes. The course emphasizes application techniques, color coordination, and the flavor and texture of fillings. Students will practice the techniques of basic cake decorating. This course will also address classical French and European desserts, including the preparation of goods such as Napoleons, Gateau St. Honoré, petit fours and petit fours sec, ganaches, pastry creams and fillings, sauces, flans and tarts, and European sponges. The course also includes instruction in tempering of chocolates, molding, and chocolate plastique, preparation of truffles, pastillage and marzipan, short doughs, and meringues. The student will be instructed in the latest preparation methods, innovative ideas for impressive plate presentations, and techniques that utilize specialized equipment and tools to make high-tech, novel creations. **Prerequisites: Principles of Culinary and Hospitality; Nutrition; Culinary Arts. 2 credit, 2 semester course**

# EDUCATION

## Education Careers Pathway - NLPS

7161 Principles of Teaching	7157 Child and Adolescent Development	7162 Teaching and Learning	7267 Education Professions Capstone
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**\*\*\*PRINCIPLES OF TEACHING - (IDOE #7161) \*\*\*DUAL CREDIT OPPORTUNITY\*\*\***

This course provides a general introduction to the field of teaching. Students will spend the first semester in the classroom, exploring educational careers, teaching preparation, and professional expectations as well as requirements for teacher certification, along with current trends and issues in education. A minimum of 20 hours field experience in an elementary or Jr High class, beginning in the second semester, and is required for successful completion of this course. Since this class involves helping younger students in a tutoring capacity, those enrolled in the Education Pathways should be disciplined in getting work turned in on time, carry good grades on a consistent basis, and be responsible about working on their own to meet assignment due dates. This course has been approved to be offered for dual credit, IvyTech class EDUC101, and must pass the course with a C (75%) or better in order for dual credit to be awarded. **ITCC Course EDUC 101. 2 credit, 2 semester course.**

**\*\*\*CHILD AND ADOLESCENT DEVELOPMENT - (IDOE#7157) \*\*\*DUAL CREDIT OPPORTUNITY\*\*\***

Child and Adolescent Development examines the physical, social, emotional, cognitive, and moral development of the child from birth through adolescence with a focus on the middle years through adolescence. Basic theories of child development, biological and environmental foundations of development, and the study of children through observation and interviewing techniques are explored. The influence of parents, peers, the school environment, culture, and the media are discussed. An observation experience up to 20 hours may be required for completion of this course. This course has been approved to be offered for dual credit. Students pursuing this course for dual credit are still required to meet the minimum prerequisites for the course and pass the course with a C or better in order for dual credit to be awarded. **Prerequisite: Principles of Teaching. ITCC EDUC 121. 2 credit, 2 semester course**

**\*\*\*TEACHING AND LEARNING - Grade 11 (IDOE #7162) \*\*\*DUAL CREDIT OPPORTUNITY\*\***

Teaching and Learning provides students the opportunity to apply many of the concepts that they have learned throughout the Education Professions pathway. In addition to a focus on best practices, this course will provide an introduction to the role that technology plays in the modern classroom. Through hands-on experience with educational software, utility packages, and commonly used microcomputer hardware, students will analyze ways to integrate technology as a tool for instruction, evaluation, and management. Students will spend a majority of the year as a cadet teacher in another building, meaning self-discipline is very important. **Prerequisite: Principles of Teaching. ITCC Course EDUC 201. 2 credit, 2 semester course**

**\*\*\*EDUCATION PROFESSIONS CAPSTONE - GRADES 11 & 12 (IDOE # 7267) \*\*DUAL CREDIT OPPORTUNITY\*\***

The Education Professions Capstone provides an extended opportunity for field experience to further apply concepts that have been presented throughout the pathway. Students will also have the opportunity to explore the topics of the exceptional child and literacy development through children’s literature. Students will gain a deeper understanding of inclusive teaching techniques along with policies, theories, and laws related to special education. Students interested in pursuing a career in Elementary Education are encouraged to also study the benefits of using children’s literature in the classroom. This course may be further developed to include specific content for students interested in pursuing a career in secondary education. The course should include a significant classroom observation and assisting experience. Student must receive a C in the classroom portion of the class and adhere to the work site's dress code and employee handbook policies. Students must drive to school on a daily basis and possess a valid driver's license. **Prerequisites: Principles of Teaching; Child and Adolescent Development, Teaching and Learning. ITCC Course EDUC 230 & EDUC 233. 2 credit, 2 semester course**

# INDUSTRIAL TECHNOLOGY

## WELDING

### Welding Technology Pathway - NLPS

7110 Principles of Welding Technology	7111 Shielded Metal Arc Welding	7101 Gas Welding Processes	7226 Welding Technology Capstone
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**PRINCIPLES OF WELDING TECHNOLOGY - (IDOE #7110) \*\*\*DUAL CREDIT OPPORTUNITY\*\*\***

Principles of Welding Technology includes classroom and laboratory experiences that develop a variety of skills in oxy-fuel cutting and basic welding. This course is designed for individuals who intend to make a career as a Welder, Technician, Designer, Researcher, or Engineer. Emphasis is placed on safety at all times. OSHA standards and guidelines endorsed by the American Welding Society (AWS) are used. 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 and be prepared for postsecondary and career success. **ITCC course WELD 100. 2 credit, 2 semester course**

**\*\*\*SHIELDED METAL ARC WELDING- (IDOE #7111) \*\*\*DUAL CREDIT OPPORTUNITY\*\*\***

Shielded Metal Arc Welding involves the theory and application of the Shielded Metal Arc Welding process. Process theory will include basic electricity, power sources, electrode selection, and all aspects pertaining to equipment operation and maintenance. Laboratory welds will be performed in basic weld joints with a variety of electrodes in the flat, horizontal and vertical positions. Emphasis will be placed on developing the basic skills necessary to comply with AWS industry standards. **Prerequisite: Principles of Welding, ITCC WELD 108 & WELD 206. 2 credit, 2 semester course**

**\*\*\*GAS WELDING - (IDOE #7101) \*\*\*DUAL CREDIT OPPORTUNITY\*\*WELD 207:**

Gas Welding Processes is designed to cover the operation of Gas Metal Arc Welding (MIG) equipment. This will include all settings, adjustments and maintenance needed to weld with a wire feed system. Instruction on both short-arc and spray-arc transfer methods will be covered. Tee, lap, and open groove joints will be done in all positions with solid, fluxcore, and aluminum wire. Test plates will be made for progress evaluation. Schools may choose to offer the course as a comprehensive MIG Welding course or a combination of introductory MIG and TIG Welding operations. **Prerequisite: Principles of Welding, ITCC WELD 207 & 272. 2 credit, 2 semester course.**

**\*\*\*WELDING TECHNOLOGY CAPSTONE - Grade 12 (IDOE # 7226) \*\*\*DUAL CREDIT OPPORTUNITY\*\*\***

The Welding Technology Capstone course builds upon the knowledge and skills developed in Welding Fundamentals, Shielded Metal Arc Welding, and Gas Metal Arc Welding by developing advanced welding skills in Gas Tungsten Arc Welding (TIG), Pipe Welding, and Fabrication. As a capstone course, students should have the opportunity to apply their knowledge and use skills through an intensive work-based learning experience.

**Required Prerequisites: Principles of Welding, Shielded Metal Arc Welding, Gas Welding, ITCC WELD 208 & WELD 273. 2 credit, 2 semester course**

## DIESEL

### Diesel Services Pathway - NLPS

7216 Principles of Diesel Services	7210 Diesel Steering and Brakes	7211 Diesel Transmissions	7221 Diesel Services Capstone
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**\*\* Possible Dual Credit Opportunity\*\*\***

**INTRODUCTION TO TRANSPORTATION - Grades 9 (IDOE # 4798)**

*Introduction to Transportation* is an introductory course designed to help students become familiar with fundamental principles in modes of land, sea, air, and space transportation, including basic mechanical skills and processes involved in transportation of people, cargo and goods. Students will gain and apply knowledge and skills in the safe application, design, production, and assessment of products, services, and systems as it relates to the transportation industries. Content of this course includes the study of how transportation impacts individuals, society, and the environment. This course allows students to reinforce, apply, and transfer their academic knowledge and skills to a variety of interesting and relevant transportation related activities, problems, and settings. **2 credit, 2 semester course**

**PRINCIPLES OF DIESEL - (IDOE # 7216)**

This course introduces the maintenance requirements and procedures of modern diesel engines and medium and heavy-duty trucks. Proper procedures and requirements for the Federal Highway Safety Inspection (DOT) will be discussed and practiced. In addition, this course gives students an overview of the electrical operating systems of the modern automobile. Students will be introduced to the safety and operation of equipment and tools used in the electrical diagnosis and repair in the automotive electrical industry. Students will study the fundamentals of electricity and automotive electronics. **2 credit, 2 semester course**

**DIESEL STEERING AND BRAKES - (IDOE #7210)**

This course studies steering, and suspension systems commonly used on modern tractors and trailers. Study will include steering and suspension components, power steering units, alignment theory and procedures, tire repair and service, and wheel balancing. Diagnosis, repair, and servicing of components including modern air suspension systems will be emphasized. Additionally, this course will cover theory, service, and repair of medium and heavy truck brake systems and their components. Emphasis is given to air brakes and their theory of operation, repair, and service of system components. Spring brakes and anti-lock systems will be studied on tractors and trailer. **Prerequisites: Principles of Diesel. 2 credit, 2 semester course**

**DIESEL TRANSMISSIONS - (IDOE# 7211)**

This course explores theory, diagnosis, and overhaul procedures related to manual transmissions and differentials. Course includes service of twin countershaft, underdrive, overdrive, power-dividers, and air shift systems. Additionally, this course Studies precision tools, equipment, and procedures

needed to repair modern diesel engines. Repair, proper assembly, and component identification are studied along with service of removable cylinder liners. **Prerequisites: Principles of Diesel, Diesel Steering and Brakes. 2 credit, 2 semester course**

**DIESEL SERVICE CAPSTONE - Grade 12 (IDOE # 7221)**

This course further explores important skills and competencies within the Diesel Technology Pathway. Topics such as Truck Climate Control Systems, Diesel Engine Performance, HT Electrical Systems, Hd Truck Auto. Transmission and Heavy Truck Electronics. Additionally, CoOp and Internship opportunities will be available for students. **Prerequisites: Principles of Diesel, Diesel Steering and Brakes, Diesel Transmissions. 2 credit, 2 semester course**

**ENGINEERING**

Engineering Pathway - NLPS

4802 Introduction to Engineering Design	5534 Computer Integrated Manufacturing	5644 Principles of Engineering	5698 Engineering Design and Development Capstone
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**\*\*\* INTRODUCTION TO ENGINEERING DESIGN (IED)- Grades 9, 10 (IDOE# 4802)\*\*\* DUAL CREDIT OPPORTUNITY\*\*\***

Introduction to Engineering Design is a fundamental pre-engineering course where students become familiar with the engineering design process. Students work both individually and in teams to design solutions to a variety of problems using industry standard sketches and current 3D design and modeling software to represent and communicate solutions. Students apply their knowledge through hands-on projects and document their work with the use of an engineering notebook. Students begin with completing structured activities and move to solving open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills. Ethical issues related to professional practice and product development are also presented. **ITCC DESN 101 & DESN 113. 2 credit, 2 semester course.**

**COMPUTER INTEGRATED MANUFACTURING (CIM) - Grades 10, 11, 12 (IDOE# 5534)**

Computer Integrated Manufacturing is a course that applies principles of rapid prototyping, robotics, and automation. This course 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. **Prerequisites Introduction to Engineering. 2 credit, 2 semester course**

**\*\*\*PRINCIPLES OF ENGINEERING (POE)- Grades 10, 11 & 12 (IDOE# 5644)\*\*\* DUAL CREDIT OPPORTUNITY\*\*\***

Principles of Engineering is a course that focuses on the process of applying engineering, technological, scientific and mathematical principles in the design, production, and operation of products, structures, and systems. This is a hands-on course designed to provide students interested in engineering careers to explore experiences related to specialized fields such as civil, mechanical, and materials engineering. Students will engage in research, development, planning, design, production, and project management to simulate a career in engineering. The topics of ethics and the impacts of engineering decisions are also addressed. Classroom activities are organized to allow students to work in teams and use modern technological processes, computers, CAD software, and production systems in developing and presenting solutions to engineering problems. **Prerequisites Introduction to Engineering . ITCC DESN 104. 2 credit, 2 semester course**

**ENGINEERING DESIGN AND DEVELOPMENT Grade 12 (IDOE# 5698)**

Engineering Design and Development is an engineering research course in which students work in teams to research, design, test, and construct a solution to an open-ended engineering problem. The product development life cycle and a design process are used to guide the team to reach a solution to the problem. The team and/or individual(s) communicates their solution to a panel of stakeholders at the conclusion of the course. As the capstone course in the Engineering Pathway, EDD engages students in critical thinking, problem-solving, time management, and teamwork skills. **Prerequisite: Introduction to Engineering. Principles of Engineering, and Computer Integrated Manufacturing. 2 credit, 2 semester course.**

**FINE ARTS**

**INTRODUCTION TO 2-D ART - Grades 9, 10, 11, 12 (IDOE # 4000)**

Students in this course will experience sequential learning experiences in introductory development, understanding, and principles of 2-D art. Areas of emphasis include: art history, art criticism, aesthetics and production that lead to portfolio quality works. Fundamental skills in drawing, watercolor, tempera, pen and ink are emphasized. It is planned particularly to give pupils a sound foundation for intermediate and advanced study in various fields of fine and applied art. **1 credit, 1 semester course.**

### **INTRODUCTION TO 3-D ART - Grades 9, 10, 11, 12 (IDOE # 4002)**

Students in this course will experience sequential learning experiences in introductory development, understanding, and principles of 3-D art. Areas of emphasis include art history, art criticism, aesthetics, and production that lead to portfolio quality works. Fundamental skills in clay, plaster, and paper mache are emphasized. It is planned particularly to give pupils a sound foundation for intermediate and advanced study in various fields of fine and applied art. **Prerequisite: Introduction to 2-D art. 1 credit, 1 semester course.**

### **ADVANCED 2-D ART - Grades, 10, 11, 12 (IDOE # 4004)**

Students in this course will experience sequential learning experiences in intermediate to advanced development, understanding, and principles of 2-D art. Areas of emphasis include art history, art criticism, aesthetics, and production that lead to portfolio quality works. Fundamental skills in drawing, watercolor, tempera, pen, and ink are emphasized. It is planned particularly to give pupils a sound foundation for intermediate and advanced study in various fields of fine and applied art. **Prerequisite: Intro to 2-D Art. 1 credit, 1 semester course.**

### **ADVANCED 3-D ART - Grades 10, 11, 12 (IDOE # 4006)**

Students in this course will experience sequential learning experiences in intermediate to advanced development, understanding and principles of 3-D art. Areas of emphasis include: art history, art criticism, aesthetics and production that lead to portfolio quality works. Fundamental skills in clay, plaster, wire and paper mache will be emphasized. It is planned particularly to give pupils a sound foundation for intermediate and advanced study in various fields of fine and applied art. **Prerequisite: Intro to 3-D Art. 1 credit, 1 semester course.**

### **DRAWING - Grades 10, 11, 12 (IDOE # 4060)**

Drawing is a course based on the Indiana Academic Standards for Visual Art. Students in drawing engage in sequential learning experiences that encompass art history, art criticism, aesthetics, and production and lead to the creation of portfolio quality works. Students create drawings utilizing processes such as sketching, rendering, contour, gesture, and perspective drawing and use a variety of media such as pencil, chalk, pastels, charcoal, and pen and ink. They reflect upon and refine their work; explore cultural and historical connections; analyze, interpret, theorize, and make informed judgments about artwork and the nature of art; relate art to other disciplines and discover opportunities for integration; and incorporate literacy and presentational skills. Students utilize the resources of art museums, galleries, and studios, and identify art-related careers. **1 credit, 1 semester repeatable for credit.**

### **PAINTING - Grades 10, 11, 12 (IDOE # 4064)**

Painting is a course based on the Indiana Academic Standards for Visual Art. Students taking painting engage in sequential learning experiences that encompass art history, art criticism, aesthetics, and production that lead to the creation of portfolio quality works. Students create abstract and realistic paintings, using a variety of materials such as mixed media, watercolor, oil, and acrylics as well as techniques such as stippling, gouache, wash, and impasto. They reflect upon and refine their work; explore cultural and historical connections; analyze, interpret, theorize, and make informed judgments about artwork and the nature of art; relate art to other disciplines and discover opportunities for integration; and incorporate literacy and presentational skills. Students utilize the resources of art museums, galleries, and studios, and identify art-related careers. **1 credit, 1 semester repeatable for credit.**

### **JEWELRY - Grades 10, 11, 12 (IDOE # 4042)**

Jewelry is a course based on the Indiana Academic Standards for Visual Art. Students in Jewelry engage in sequential learning experiences that encompass art history, art criticism, aesthetics, and production and lead to the creation of portfolio quality works. Students create works of jewelry design and fabrication techniques including, sawing, piercing, filing, and soldering. They reflect upon and refine their work; explore cultural and historical connections; analyze, interpret, theorize, and make informed judgments about artwork and the nature of art; relate art to other disciplines and discover opportunities for integration; and incorporate literacy and presentational skills. Students utilize the resources of art museums, galleries, and studios, and identify art-related careers. **1 credit, 1 semester course**

### **PRINTMAKING -Graded 10, 11, 12 (IDOE # 4066)**

Printmaking is a course based on the Indiana Academic Standards for Visual Art. Students in printmaking engage in sequential learning experiences that encompass art history, art criticism, 88 Indiana Department of Education High School Course Titles and Descriptions: 2023-2024 aesthetics, and production that lead to the creation of portfolio quality works. Students apply media, techniques, and processes with sufficient skill to communicate intended meaning. They create abstract and realistic prints using a variety of materials such as linocut, woodcut, stencil, silkscreen, photo silkscreen, and mono-print. They utilize processes such as etching, relief, and lithography to explore a variety of ideas and problems. Students reflect upon and refine their work; explore cultural and historical connections; analyze, interpret, theorize, and make informed judgments about artwork and the nature of art; relate art to other disciplines and discover opportunities for integration; and incorporate literacy and presentational skills. Students utilize the resources of art museums, galleries, and studios, and identify art-related careers. **1 credit, 1 semester course.**

### **PHOTOGRAPHY- Grades 10, 11, 12 (IDOE # 4062)**

Photography is a course based on the Indiana Academic Standards for Visual Art. Students in photography engage in sequential learning experiences that encompass art history, art criticism, aesthetics, and production and lead to the creation of portfolio quality works, creating photographs, films, and videos utilizing a variety of digital tools and darkroom processes. They reflect upon and refine their work; explore cultural and historical connections; analyze, interpret, theorize, and make informed judgments about artwork and the nature of art; relate art to other disciplines and discover opportunities for integration; and incorporate literacy and presentational skills. Students utilize the resources of art museums, galleries, and studios, and identify art related careers. **Art 1 credit, 1 semester.**

### **CERAMICS -Grades 10, 11, 12 (IDOE # 4040)**

Students in this course will experience sequential learning experiences in intermediate to advanced development, understanding, and principles of 3D art through ceramics. Areas of emphasis include: art history, art criticism, aesthetics, and production that lead to portfolio quality works. Hand building, molds, slip and glaze techniques, carving, and casting will be sculpture techniques utilized. **1 credit, 1 semester.**

### **SCULPTURE - Grades 10, 11, 12 (IDOE # 4044)**

Students in this course will experience sequential learning experiences in intermediate to advanced development, understanding, and principles of 3D art through sculpture. Areas of emphasis include: art history, art criticism, aesthetics, and production that lead to portfolio quality works. Wire paper and plaster will be the main sculpture mediums used. **1 credit, 1 semester.**

### **HUMANITIES - Grades 10, 11, 12 (IDOE # 0514)**

A course in humanities provides for the study of content drawn from history, philosophy, literature, languages, and the arts. This course also includes an in-depth study of specific disciplines in these and related subject areas that could include: (1) linguistics; (2) archeology; (3) jurisprudence; (4) the history, theory, and criticism of the arts; (5) the history and philosophy of science; (6) ethics; (7) comparative religions; and (8) other aspects of the social sciences which relate to understanding life and the world. The emphasis of the course work is on developing an understanding of the content of the course and how to actually apply it to the human environment. Particular attention is given to the relevance of these applications in regard to the current conditions of life. Students may choose one of the following courses offered: The Art of Walt Disney, The History of Rock & Roll, or Cover Band. **2 credit, 2 semester course**

### **AP ART HISTORY – Grades 10, 11, 12 (IDOE # 4025)**

AP Art History is a course based on the content established and copyrighted by the College Board. The course is not intended to be used as a dual credit course. The AP Art History course is equivalent to a two-semester introductory college course that explores topics such as the nature of art, art making, and responses to art. By investigating a specific image set of 250 works of art characterized by diverse artistic traditions from prehistory to the present, the course fosters in-depth, holistic understanding of the history of art from a global perspective. Students become active participants in the global art world, engaging with its forms and content, as they experience, research, discuss, read, and write about art, artists, art making, and responses to and interpretations of art. This course incorporates research, **extensive reading, and analytical writing**. **2 credit, 2 semester course.**

### **AP STUDIO ART – Grades 11, 12 (IDOE # 4052)**

AP 3-D Design is a course established and copyrighted by the College Board. The course is not intended to be used as a dual credit course. The AP Art Program consists of three portfolio exams—2-D Design, 3-D Design, and Drawing—corresponding to the college foundation courses. Portfolios allow flexibility of coursework while guiding students to produce college-level quality, artistic investigation, and breadth of work. The 3-D Design portfolio involves decision making about how to use the elements and principles of art as they relate to the integration of depth, space, volume, and surface, either actual or virtual. Students' portfolios demonstrate skills and ideas developed, refined, and applied throughout the course to produce visual compositions. Students may choose to submit any or all of the portfolios. Portfolios are evaluated based on standardized scoring descriptors aligned with skills and understanding developed in college foundation courses. The portfolio will have two sections: Sustained Investigation and Selected works. **2 credit, 2 semester course.**

### **THEATRE PRODUCTIONS – Grades 9, 10, 11, 12 (IDOE # 4248)**

Students enrolled in Theatre Production take on responsibilities associated with rehearsing and presenting a fully mounted theatre production. They read and analyze plays to prepare for production; conceive and realize a design for a production, including set, lighting, sound and costumes; rehearse and perform roles in a production; and direct or serve as assistant director for a production. These activities should incorporate elements of theatre history, culture, analysis, response, creative process, and integrated studies. Students should be committed to memorizing lines and performing in public. Out-of-school time is required in this class during the academic year. Attendance is expected at all rehearsals and performances. **1 credit, 1 semester course. This course may be repeated for up to 2 credits.**

### **THEATRE ARTS – Grades 10, 11, 12 (IDOE # 4242)**

Students enrolled in theatre arts read and analyze plays, create scripts and theatre pieces, conceive scenic designs, and develop acting skills. These activities incorporate elements of theatre history, culture, analysis, response, creative process, and integrated studies. Additionally, students explore career opportunities in the theatre, attend and critique theatrical productions, and recognize the responsibilities and the importance of individual theatre patrons in their community. Attendance is expected at all rehearsals and performances. This course requires attendance outside of normal school hours. **Prerequisites: Theatre Production. 1 credit, 1 semester course. This course may be repeated for up to 2 credits.**

### **ADVANCED THEATRE ARTS – Grades 11, 12 (IDOE # 4240)**

*Advanced Theatre Arts* is based on the Indiana Academic Standards for Theatre. Students enrolled in Advanced Theatre Arts read and analyze plays and apply criteria to make informed judgments. They draw on events and experiences to create scripted monologues and scenes, create scenic designs for existing plays, and build characters through observation, improvisation and script analysis. These activities should incorporate elements of theatre history, culture, analysis, response, creative process, and integrated studies. Additionally, students explore careers in theatre arts and begin to develop a portfolio of their work. They also attend and critique theatre productions and identify ways to support the theatre in their community. Attendance is expected at all rehearsals and performances. This course requires attendance outside of normal school hours. **Prerequisites: Theatre Production & Theatre Arts. 1 credit, 1 semester course. This course may be repeated for up to 2 credits.**

**ADVANCED ACTING – Grades 12 (IDOE # 4250)**

*Advanced Acting* is based on the Indiana Academic Standards for Theatre. Students enrolled in Advanced Acting research, create, and perform characters through script analysis, observation, collaboration and rehearsal. These activities should incorporate elements of theatre history, culture, analysis, response, creative process and integrated studies. Additionally, students explore career opportunities in the theatre by attending plays, meeting actors and discussing their work, and becoming theatre patrons in their community. Attendance is expected at all rehearsals and performances. This course requires attendance outside of normal school hours. **Prerequisites: Theatre Production, Theatre Arts, and Advanced Theatre Arts. 1 credit, 1 semester course. This course may be repeated for up to 2 credits.**

**TECHNICAL THEATRE – Grades 9, 10, 11, 12 (IDOE #4244)**

Technical Theatre is based on the Indiana Academic Standards for Theatre. Students enrolled in Technical Theatre actively engage in the process of designing, building, managing, and implementing the technical aspects of a production. These activities should incorporate elements of theatre history, culture, analysis, response, creative process, and integrated studies. Additionally, students explore career opportunities in the theatre, attend and critique theatrical productions, and recognize the responsibilities and the importance of individual theatre patrons in their community. **1 credit, 1 semester course. This course is repeatable for credit.**

**\*\*\*ADVANCED FINE ARTS, COLLEGE CREDIT - Grades 10, 11, 12 (IDOE # 4260)****\*\*\* DUAL CREDIT OPPORTUNITY\*\*\***

Advanced Fine Arts, College Credit is a title covering any advanced course in fine arts (Music Appreciation for MCHS) offered for credit by an accredited postsecondary institution through an adjunct agreement with a secondary school or any other postsecondary fine arts course offered for dual credit. **2 credit, 2 semester course. Indiana College Core Course: HUMA 118**

**BEGINNING CHORUS - Grades 9, 10, 11, 12 (IDOE # 4182)**

These courses meet only in the fall semester of the school year. This course is a mixed chorus that provides a beginning development of quality repertoire in various styles of literature. The chorus will perform at many contests and concerts. Attendance is expected at all contests, concerts and rehearsals. Out-of-school time is required in this class during the school year. This course may be repeated all four years for credit. **1 credit, 1 semester course. May be repeated for credits.**

**INTERMEDIATE CHORUS - Grades 9, 10, 11, 12 (IDOE # 4186)**

These courses meet only in the spring semester of the school year. This course is a mixed chorus that provides an intermediate development of quality repertoire in various styles of literature. The chorus will perform at many contests and concerts. Attendance is expected at all contests, concerts and rehearsals. Out-of-school time is required in this class during the school year. This course may be repeated all four years for credit. **1 credit, 1 semester course. May be repeated for credits.**

**ADVANCED CHORUS - Grades 9, 10, 11, 12 (IDOE # 4188)**

Advanced chorus will incorporate music with dance and will perform at many contests and concerts. Auditions are required. Attendance is expected at all contests, concerts, and rehearsals. Out-of-school time is required in this class during the school year. This course may be repeated all four years for credit. **1 credit, 1 semester course. May be repeated for credits.**

**BEGINNING/ INTERMEDIATE CONCERT BAND - Grades 9, 10, 11, 12 (IDOE #4160 & 4168)**

Beginning/ Intermediate Concert Band is designed as an introduction to a wide repertoire of ensemble and solo performance abilities including sight-reading, analysis, listening, improvisation along with the performance and appreciation of a variety of musical styles and forms. The students in this class will work towards performances in the community and in ISSMA. This ensemble is open to ALL Band students that do not get accepted into the Advanced Concert Band. The ensemble will play 9th-10th grade level music. Students will aim their goals towards being able to play in the Advanced Concert Band in future years. Performances include: Veteran's Day, Christmas at Madison, Festival Concert, ISSMA Concert Contest, Spring Pops, and Graduation. This course may be repeated all four years for full credit. **Prerequisite: Successful completion of the 8th grade band or an audition with the band director. 1 credit, 1 semester course. May be repeated for up to 8 credits.**

**ADVANCED CONCERT BAND – Grades 10, 11, 12 (IDOE #4170)**

This course is the top instrumental ensemble at MCHS. Students will be invited to play in this ensemble, based off of previous years' performance and behavior, by the Director of Bands. This course is open to all grades, however it will mostly consist of 11th and 12th grade students. This ensemble will perform upper-level high school and collegiate repertoire. \*This ensemble is for high-ability instrumental students. Performances include: Veteran's Day, Christmas at Madison, Festival Concert, ISSMA Concert Contest, Spring Pops, and Graduation. **Prerequisite: Invitation from Director of Bands. 2 credit, 2 semester course.**

**JAZZ ENSEMBLE – Grades 9, 10, 11, 12 (IDOE # 4164)**

*Jazz Ensemble* is based on the Indiana Academic Standards for High School Instrumental Music. Students taking this course develop musicianship and specific performance skills through group and individual settings for the study and performance of varied styles of instrumental jazz. Instruction includes the study of the history, formative, and stylistic elements of jazz. Students develop their creative skills through improvisation, composition, arranging, performing, listening, and analyzing. \*Students are required to be enrolled in one of the two Concert Band courses, unless authorized by the Director of Bands. Freshmen can join by permission from the Director of Bands. Performances include: Chautauqua, Christmas at Madison, Festival Concert, ISSMA Jazz Contest, Spring Pops. This ensemble is also available to be booked in the Community as permitted by the MCS Bands Calendar. **1 credit, 1 semester course. May be repeated for credits.**

### **PIANO AND ELECTRONIC KEYBOARD – Grades 9, 10, 11, 12 (IDOE # 4204)**

Students taking this course are offered keyboard classes in order to develop music proficiency and musicianship. Students perform with proper posture, hand position, fingering, rhythm, and articulation; compose and improvise melodic and harmonic material; create and perform simple accompaniments; listen to, analyze, sight-read, and study a variety of keyboard literature; study the elements of music as exemplified in a variety of styles; and make interpretive decisions. **1 credit, 1 semester course. May be repeated for up to 8 credits.**

### **AP MUSIC THEORY – Grades 10, 11, 12 (IDOE # 4210)**

AP Music Theory is a course based on the content established and copyrighted by the College Board. The course is not intended to be used as a dual credit course. The AP Music Theory course corresponds to two semesters of a typical introductory college music theory course that covers topics such as musicianship, theory, musical materials, and procedures. Through the course, students develop the ability to recognize, understand, and describe basic materials and processes of music that are heard or presented in a score. Development of aural skills is a primary objective. Performance is also part of the learning process. Students understand basic concepts and terminology by listening to and performing a wide variety of music. **2 credit, 2 semester course.**

### **MUSIC THEORY - Grades 9, 10, 11, 12 (IDOE #4208)**

Music Theory and Composition is based on the Indiana Academic Standards for Music and standards for this specific course. Students develop skills in the analysis of music and theoretical concepts. Students develop ear training and dictation skills, compose works that illustrate mastered concepts, understand harmonic structures and analysis, understand modes and scales, study a wide variety of musical styles, study traditional and nontraditional music notation and sound sources as tools for musical composition, and receive detailed instruction in other basic elements of music. **2 credit, 2 semester course.**

### **DANCE CHOREOGRAPHY: BALLET, MODERN, JAZZ, OR ETHNIC-FOLK – Grades 9, 10, 11, 12 (IDOE # 4142)**

*Dance Choreography* is based on the Indiana Academic Standards for Dance. Learning activities in choreography are sequential and systematic and allow students to express themselves. A wide variety of materials and experiences are used in order to provide students with the knowledge, skills, and appreciation of the multi-styled and multicultural dance expressions. Choreographic activities provide students opportunities to participate in roles as a soloist, a choreographer or leader, and in a subject role. Students also explore a wide variety of choreographic philosophies as well as administrative and media skills necessary for the promotion and documentation of works to be performed. Students experience and learn to use appropriate terminology to describe, analyze, interpret, and critique dance compositions by professional individuals or companies. **1 credit, 1 semester course. May be repeated for credits.**

## **SPECIAL CURRICULAR OPPORTUNITIES**

### **CAREER INFORMATION AND EXPLORATION - Grades 9,10 ( IDOE #0522)**

Career Information and Exploration provides students with opportunities to learn about themselves and about various traditional and nontraditional occupations and careers. Students also gain an awareness of the type of occupational preparation or training needed for various occupations and careers. Students develop skills in: (1) employability, (2) understanding the economic process, and (3) career decision making and planning. Opportunities are provided for students to observe and participate in various job situations through opportunities such as field trips, internships, mock interviews, and guest speakers. Resume development experience and career- related testing are also provided to students. This course will be used for grades 9 and 10 for JAG (Jobs for America's Grads) **1 credit, 1 semester course.**

### **JAG (Jobs for America's Grads) – Grades 11, 12 (IDOE # 0509)**

JAG is a National and State school-to-career transition program for high school juniors and seniors. The primary mission of this classic JAG Model program is to keep young people in high school through graduation and to provide an array of counseling, employability skills development, career association, job development, and job placement services that will result in either a quality job leading to a career after graduation and/or enrollment in a postsecondary education and training program. **2 credit, 2 semester course.**

### **INTRODUCTION TO COMPUTER SCIENCE - Grades 9,10 ( IDOE #4803)**

Introduction to Computer Science allows students to explore the world of computer science. Students will gain a broad understanding of the areas composing computer science. Additionally, there is a focus on the areas of computer programming, gaming/mobile development, and artificial intelligence/robotics. **1 credit, 1 semester course.**

### **BASIC SKILLS DEVELOPMENT – Grades 9, 10, 11, 12 (IDOE # 0500)**

Basic Skills Development is a multidisciplinary course that provides students continuing opportunities to develop basic skills including (1) reading, (2) writing, (3) listening, (4) speaking, (5) mathematical computation, (6) note taking, (7) study and organizational skills, and (8) problem-solving skills, which are essential for high school course work achievement. Determination of the skills to be emphasized in this course is based on Indiana's standards, individual school corporation general curriculum plans, and the student's Individualized Education Programs (IEP) or other individualized plans. Skills selected for developmental work provide students with the ability to continue to learn in a range of different life situations. **1 credit per semester, 8 credits maximum.**

## **SELECT PLACE**

### **SELECT PLACE – Grades 9, 10, 11, 12**

Select PLACE (Personalized Learning Academy for Connected Education) incorporates four core areas (English, Science, Social Studies, and Math), as well as Spanish I and II, at individual student need and readiness. Through short seminars, workshops, and individual exploration, students will build on the four core content areas learned in junior high with student choice on subject matter and timeline. Select teachers work individually with students to provide a personalized approach to each student's needs and learning style. Teachers provide instruction that accommodate a variety of learning preferences. The classroom environment is designed to engage students, foster discussion, and take advantage of the numerous possibilities that technology has to offer in the teaching and learning process. Select's primary purpose is to provide a personalized educational experience, through student, teacher, and peer collaboration, in order to develop self-directed and internally motivated lifelong learners. **Application and teacher recommendation are required for admittance. (4-12 credits per year, credit upon completion of subject matter)**

## **COURSES OFFERED IN SELECT**

Courses without descriptions in the SELECT PLACE section, can be located in this curriculum guide within their core content areas with complete course description.

## **SELECT ENGLISH/LANGUAGE ARTS**

All courses fulfill an English / Language Arts requirement for all diplomas unless otherwise specified.

**English I, II, III, IV (Equate to English 9, 10, 11, & 12)**

**English 9 Honors**

**English 10 Honors**

**English 11 Honors**

**English 12 Honors**

**Creative Writing**

**Developmental Reading**

**Etymology**

**Film Literature**

**Composition**

**Advanced Composition**

**Expository Writing**

**Short Stories**

**Grammar**

**Critical Thinking & Argumentation (Regular)**

## **SELECT MATHEMATICS**

**Algebra I**

**Geometry**

**Geometry Honors**

**Algebra II**

**Algebra II Honors**

**CCR Bridge Math Ready**

**Integrated Math I**

**Integrated Math II**

**Integrated Math III**

## **SELECT SCIENCE**

**Biology**

**Biology Honors**

**Integrated Chemistry & Physics**

**Environmental Science**

**Advanced Science, Special Topics**

**SELECT SOCIAL STUDIES**

- World History & Civilization
- United States History
- Economics
- Government
- Current, Problems, Issues and Events
- Topics in History
- Ethnic Studies
- Psychology

**Ivy Tech Community College Dual Enrollment Programs**

MCHS students will have the opportunity to participate in programs at Ivy Tech Community College during their Junior and Senior years. While we highly encourage students to take advantage of dual credit and dual enrollment offerings, it is important to note that students who earn a grade less than C- for Dual Enrollment courses are responsible for payment of the courses. Transportation will be provided for students to and from MCHS and ITCC. Shall the student choose to use their own form of transportation they will need to fill out a transportation release form.

**WELDING**

**Year One:**

WELD 100: Welding Processes (IDOE # 7110)	WELD 100: Welding Processes (IDOE # 7110)
WELD 108: Shielded Metal Arc Weld I (IDOE # 7111)	WELD 206: Shielded Metal Arc Weld II (IDOE # 7111)
WELD 207: Gas Metal Arc Weld I (IDOE # 7110)	WELD 272: Gas Metal Arc Weld II (IDOE # 7101)
IVYT 113: Student Success in Technology	

**Year Two:**

WELD 208: Gas Tungsten Arc Weld I (IDOE # 7226)	WELD 208: Gas Tungsten Arc Weld I (IDOE # 7226)
WELD 273: Gas Tungsten Arc Weld II (IDOE # 7226)	WELD 273: Gas Tungsten Arc Weld II (IDOE # 7226)
WELD 210: Welding Fabrication I (IDOE # 6146)	WELD 203: Pipe Welding I (IDOE # 6146)
WELD 271: Blueprint Reading for Welders	MATH 122: Applied Technical Mathematics

**INDUSTRIAL MAINTENANCE**

**Year One:**

INDT 113: Industrial Electrical I (IDOE # 7103)	ADMF 102: Technology in Adv. Manufacturing (IDOE # 7103)
ADMF 101: Key Principles of Adv. Manufacturing (IDOE # 7108)	INDT 100: Computer Fundamentals for Technology
INDT 104: Fluid Power I (IDOE # 7261)	IVYT 113: Student Success in Technology

**Year Two:**

INDT 114: Intro to Welding (IDOE # 7104)	MTTC 101: Intro to Maching (IDOE # 7104)
ADMF 222: Fluid Power II (IDOE # 7261)	MATH 122: Applied Technical Mathematics
INDT 203: Machine Maintenance & Installation (IDOE # 7261)	ADMF 112: Mechanical Drives I (IDOE # 7261)

**CLOUD TECHNOLOGIES****Year One:**

INFM 109: Informatics Fundamentals I (IDOE #7183)	SDEV 120: Computing Logic (IDOE # 7183)
ITSP 132: Hardware/Software Support I (IDOE # 7180)	ITSP 134: Hardware/Software Support II (IDOE # 7180)
IVYT 115: Student Success in Computing & Informatics	ENGL 111: English Composition (IDOE # 1098)

**Year Two:**

ITSP 136: CompTIA A+ Certification (IDOE # 7180)	SVAD 150: Cloud Foundations
SVAD 111: Linux & Virtualization Tech (IDOE # 7251)	NETI 104: Introduction to Networking (IDOE # 7181)
SVAD 121: Enterprise Computing (IDOE # 7182)	MATH 136: College Algebra (IDOE # 2564)

**CERTIFIED NURSING ASSISTANT**

HLHS 107: CNA Preparation
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Students who complete this course are eligible to apply to sit for the Indiana State Department of Health certification exam for nursing assistants.

**PRE-NURSING**

Completion of the pre-nursing coursework allows students to directly apply to the Iv Tech nursing program after High School.

<b>ENGL 111: English Composition (IDOE # 1098)</b>	MATH 13x: Finie Math, College Algebra, or Trig (IDOE # 2530, 2564, or 2566)
APHY 101: Anatomy & Physiology (IDOE # 5276)	PSYCH 101: Introduction to Psychology (IDOE # 1532)
TEAS Testing	

**MEDICAL ASSISTING**

**Prerequisites for the program are HLHS 101 Medical Terminology (IDOE # 5274) and APHY 101: Anatomy and Physiology (IDOE #5276)**

MEAS 109: The Professional Medical Assistant	MEAS 110: Introduction to Clinical Practice
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MEAS 137: Outpatient Insurance and Basic Coding	MEAS 209: Electronic Administrative Practices
APHY 102: Anatomy & Physiology II (IDOE # 3090)	IVYT 112: Student Success in Healthcare
MEAS 218: Pharmacology	MEAS 219: Medical Assisting Laboratory Techniques
MEAS 238: Clinical I	MEAS 239: Clinical II
MEAS 260: Medical Assisting Externship	

# SOUTHEASTERN CAREER CENTER

## 2026-2027 Course Catalog

### Automotive Technology

<p><b>Important to Know:</b> Basic math and literacy foundational skills Heavy lifting Work boots required Labs are not temperature controlled PPE is required</p>	<p><b>Program Cost:</b> Year 1 - \$119.00 Year 2 - \$30.00</p>	<p><b>Potential Careers:</b> Automotive Technician, Auto Parts Sales Expert, Service Writer, Insurance Adjuster, Automotive Sales, Automotive Machinist</p>
<p><b>Dual Credit:</b> Year 1: 12 AUTI 100/AUTI 111/AUTI 121/AUTI 141  Year 2: 9 (Ivy Tech) AUTI 122/AUTI 131/AUTI 145 Year 2: 12 (UNOH)  AU 126 /AU 127 *only earned if attending UNOH</p>	<p><b>Certifications:</b> Year 1 - ASE - Grad Pathway Approved Certification  Year 2- ASE - Grad Pathway Approved Certification (certified by the National Automotive Training Education Foundation)</p>	<p><b>Career/Technical Student Organization:</b></p>

### Automotive Technology - Year 1

#### **7213 Principles of Automotive Services**

This course gives students an overview of the operating and general maintenance systems of the modern automobile. Students will be introduced to the safety and operation of equipment and tools used in the automotive industry. Students will study the maintenance and light repair of automotive systems. This course gives students an overview of the electrical operating systems of the modern automobile. Students will be

introduced to the safety and operation of equipment and tools used in the electrical diagnosis and repair in the automotive electrical industry. Students will study the fundamentals of electricity and automotive electronics.

- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

### **7205 Brake Systems**

This course teaches theory, service and repair of automotive braking systems. This course provides an overview of various mechanical brake systems used on today's automobiles. This course will emphasize professional diagnosis and repair methods for brake systems.

- Required Prerequisites: Principles of Automotive Services
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas .

### **7212 Steering and Suspensions**

This course will study driveline theory and in-car service procedures. Theory and overhaul procedures related to the driveshaft and axle assemblies for front and rear wheel drive vehicles are included as well. Additionally, this course teaches theory, service and repair of automotive steering and suspension systems. It provides an overview of various mechanical, power, and electrical steering and suspension systems used on today's automobiles and will emphasize professional diagnosis and repair methods for steering and suspension systems.

- Required Prerequisites: Principles of Automotive Services; Brake Systems
- Recommended Prerequisites: none
- Credits: Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

## **Automotive Technology - Year 2**

### **7375 Automotive Service Capstone**

This course further explores important skills and competencies within the Automotive Service Technology Pathway. Students will be exposed to an in-depth study of vehicle electrical systems. Students will study the fundamentals of electricity and automotive electronics in various automotive systems. Students will understand other topics such as Wheels, Tires, Alignment and Steering Suspension System, Engine Repair, Engine Performance (computer aided diagnostics), Advanced Braking/Traction Control systems as well as Climate Control/HVAC. Additionally, co-op, and internship opportunities will be available for students.

- Required Prerequisites: Principles of Automotive Services; Brake Systems; Steering and Suspensions
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max
- Counts as a Directed Elective or Elective for all diplomas

## **Building Trades**

<p><b>Important to Know:</b> Basic math and literacy foundational skills Outdoor working conditions PPE is required</p>	<p><b>Program Cost:</b> Year 1 - \$109.00 **supplies purchased year one will be used for year two Year 2 - \$25.00</p>	<p><b>Potential Careers:</b> Carpenter, Project Supervisor, Construction Management, Electrical, Plumbing</p>
<p><b>Dual Credit:</b> Year 1: 9 CNST 100/CNST 105/CNST 105L/CNST 160/CNST 160L  Year 2: 6 CNST 120/CNST 155/CNST 155L</p>	<p><b>Certifications:</b> Year 1 - OSHA 10 <i>HBI Carpentry Basic is Grad Pathway Approved Certification</i> Year 2 - Carpentry Level 1 Apprentice Certification</p>	<p><b>Career/Technical Student Organization:</b></p>

## **Building Trades - Year 1**

### **7130 Principles of Construction Trades**

Principles of Construction Trades prepares students with the basic skills needed to continue in a construction trade field. Topics will include an introduction to the types and uses for common hand and power tools, learn the types and basic terminology associated with construction drawings, and basic safety. Additionally students will study the roles of individuals and companies within the construction industry and reinforce mathematical and communication skills necessary to be successful in the construction field.

- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

### **7122 Construction Trades: Framing and Finishing**

Construction Trades: Framing and Finishing prepares students with advanced framing skills along with interior and exterior finishing techniques. Topics include roofing applications, thermal and moisture protection, exterior finishing, cold-formed steel framing, drywall installation and finishing, doors and door hardware, suspended ceilings, window, door, floor, and ceiling trim, and cabinet installation.

- Required Prerequisites: Principles of Construction Trades; Construction Trades: General Carpentry
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

### **7123 Construction Trades: General Carpentry**

Construction Trades: General Carpentry builds upon the skills learned in the Principles of Construction Trades and examines the basics of framing. This includes studying the procedures for laying out and constructing floor systems, wall systems, ceiling joist and roof framing, and basic stair layout. Additionally, students will be introduced to building envelope systems.

- Required Prerequisites: Principles of Construction Trades; or Principles of Architecture, Engineering and Construction
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

## **Building Trades - Year 2**

### **7242 Construction Trades Capstone**

The Construction Trades Capstone course covers the basics of electricity and working with concrete. Electrical topics include the National Electric Code, electrical safety, electrical circuits, basic electrical construction drawings, and residential electrical services. Students may also gain an understanding of concrete properties, foundations, slab-on-grades, and vertical and horizontal formwork. The course prepares students for the NCCER Carpentry Forms Level 3 and Electrical Level 1 certificates.

- Required Prerequisites: Principles of Construction Trades; Construction Trades: General Carpentry; and Construction Trades: Framing and Finishing
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas ● Counts as a quantitative reasoning course

## **Computer Repair/Networking**

<p><b>Important to Know:</b> Basic math and literacy foundational skills Good communication skills</p>	<p><b>Program Cost:</b> Year 1- \$119.00 Year 2- \$119.00</p>	<p><b>Potential Careers:</b> Repair Technician, Helpdesk Technician, Domain Administrator, Network Administrator, Cyber Security Engineer, Systems Administrator <i>*some careers may require post-secondary</i></p>
<p><b>Dual Credit:</b> Year 1: 6 CMET 140/CMET 185/CMET 195</p>	<p><b>Certifications:</b> Year 1 - CompTia A+ <i>is Grad Pathway Approved Certification</i> Year 2 - CompTia Net+ <i>is Grad Pathway Approved Certification</i></p>	<p><b>Career/Technical Student Organization:</b></p>

## **Computer Repair/Networking - Year 1**

### **7183 Principles of Computing**

Principles of Computing provides students the opportunity to explore how computers can be used in a wide variety of settings. The course will begin by exploring trends of computing and the necessary skills to implement information systems. Topics include operating systems, database technology, cybersecurity, cloud implementations and other concepts associated with applying the principles of good information management to

the organization. Students will also have the opportunity to utilize basic programming skills to develop scripts designed to solve problems. Students will learn about algorithms, logic development and flowcharting.

- Required Prerequisites: none
- Recommended Prerequisites: Introduction to Computer Science; Completed or Co-Enrolled in Algebra I
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum

### **7180 Information Technology Fundamentals**

Information Technology Fundamentals provides the necessary competencies required for an entry-level Information Technology professional. Students will have the knowledge required to assemble components based on customer requirements, install, configure and maintain devices/software for end users, understand the basics of networking and security, properly and safely diagnose, resolve and document common hardware and software issues while applying troubleshooting skills. Students will also learn appropriate customer support, understand the basics of virtualization, desktop imaging, and deployment. This course should also prepare students for the CompTia A+ Certification Exam.

- Required Prerequisites: Principles of Computing
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

### **7182 Networking Fundamentals**

Networking Fundamentals describes, explores and demonstrates how a network operates in our everyday lives. The course covers the technical pieces and parts of a network and also societal implications such as security and data integrity. Using hands-on lab work, this course offers students the critical information needed for a role as an Information Technology professional who supports computer networks. Concepts covered include the TCP/IP model, OS administration, designing a network topology, configuring the TCP/IP protocols, managing network devices and clients, configuring routers and switches, wireless technology and troubleshooting. Provides students the ability to implement, administer, and troubleshoot information systems that incorporate the Microsoft Windows clients and servers in an enterprise environment. Students will be introduced to managing applications, files, folders, and devices in a windows active directory environment.

- Required Prerequisites: Principles of Computing; Information Technology Fundamentals
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

## **Computer Repair/Networking - Year 2**

### **7251 Networking Capstone**

Networking Capstone includes hands-on lab work, and a wide array of assessment types and tools. The course covers the architecture, components, and operations of routers and switches in small networks and introduces wireless local area networks (WLAN) and security concepts. Students learn how to configure and troubleshoot routers and switches for advanced functionality using security best practices and resolve common issues with protocols in both IPv4 and IPv6 networks. The course also emphasizes network security concepts and introduces network virtualization and automation. Students learn how to configure, troubleshoot, and secure enterprise network devices and understand how application programming interfaces (API) and configuration management tools enable network automation.

- Required Prerequisites: Principles of Computing; Information Technology Fundamentals; Networking Fundamentals
- Recommended Prerequisites: none

- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

**Cosmetology** - *must have completed the 10th grade per Indiana state code*

<p><b>Important to Know:</b>          1500 classroom hours is required by state          Willingness to work with clients and other students          Basic math and literacy foundational skills          Transportation is a <b>MUST</b>          Uniform required          Professional appearance          \$100 non-refundable deposit by April 3, 2025 to secure your spot and goes towards supply fee</p>	<p><b>Program Cost:</b>          Year 1 - \$510.00          Year 2 - n/a</p>	<p><b>Potential Careers:</b>          Licensed Cosmetologist, Skin Care Specialist, Make-up Artist, Nail Technician, Hair Color Specialist, Salon Owner, Retail Specialist</p>
<p><b>Dual Credit:</b>          Year 1: 14          COSM 100/COSM 150          Year 2: 14          COSM 200/COSM 250</p>	<p><b>Certifications:</b>          Year 2 - <i>Licensed Cosmetologist is Grad Pathway Approved Certification</i></p>	<p><b>Career/Technical Student Organization:</b></p>

**Cosmetology - Year 1**

**7330 Principles of Barbering and Cosmetology**

Principles of Barbering and Cosmetology offers an introduction to cosmetology with emphasis on basic practical skills and theories including roller control, quick styling, shampooing, hair coloring, permanent waving, facials, manicuring, business and personal ethics, and bacteriology and sanitation. Successful completion of the course requires at least 375 Cosmetology studio hours.

- Recommended Grade(s): **MUST completed the tenth grade**
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a Directed Elective or Elective for all diplomas
- Principles and Fundamentals should be concurrently enrolled if offering for Dual Credits. This course may require extended hours of participation in order to meet the 1500 hours required for the Cosmetology and Barbering exams.

**7332 Advanced Cosmetology**

Advanced Cosmetology will emphasize the development of advanced skills in styling, hair coloring, permanent waving, facials, manicuring, chemical texturizing, and hair cutting techniques. Students will also further study anatomy and physiology as it applies to hair care professions. Successful completion of the course requires at least 375 studio hours.

- Required Prerequisites: Principles of Barbering and Cosmetology; Barbering and Cosmetology Fundamentals
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

- This course should be co-enrolled with TSD. This course may require extended hours of participation in order to meet the 1500 hours required for the Cosmetology and Barbering exams.

**7331 Barbering and Cosmetology Fundamentals**

Barbering and Cosmetology Fundamentals focuses on the development of practical skills introduced in Principles of Barbering and Cosmetology. Clinical application and theory in the science of barbering and cosmetology are introduced. Successful completion of the course requires at least 375 Cosmetology studio hours.

- Required Prerequisites: Principles of Barbering and Cosmetology
- Recommended Prerequisites: none
- Credits: Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a Directed Elective or Elective for all diplomas
- Principles and Fundamentals should be concurrently enrolled. This course may require extended hours of participation in order to meet the 1500 hours required for the Cosmetology and Barbering exams.

**Cosmetology - Year 2**

**7334 Barbering and Cosmetology Capstone**

Barbering and Cosmetology Capstone builds and improves previously developed skills with emphasis on developing individual techniques. Professionalism, shop management, psychology in relation to barbering and cosmetology, and preparation for state board examinations are stressed. Successful completion of the course requires at least 375 studio hours.

- Required Prerequisites: Principles of Barbering and Cosmetology; Barbering and Cosmetology Fundamentals; Advanced Cosmetology or Advanced Barbering
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas
- This course may require extended hours of participation in order to meet the 1500 hours required for the Cosmetology and Barbering exams.

**Criminal Justice**

<p><b>Important to Know:</b>          Critical Thinking          Writing skills          Public speaking          Moral character with ability to be professional in difficult scenarios</p>	<p><b>Program Cost:</b>          n/a</p>	<p><b>Potential Careers:</b>          Local and State Police Officer,          Federal Agent, Military Police,          Security Guard, Crime Scene Investigator, Lawyer Social Worker, Jail Officer  <i>*some careers may require post-secondary</i></p>
<p><b>Dual Credit: 9</b>           CRIM 100/CRIM 101/CRIM 145</p>	<p><b>Certifications:</b>          NIMS 100, 200, 700, 0800 (Emergency Management Institute), CPR/AED,          Hunter Education IDNR  <i>Jail Officer is Grad Pathway Approved Certification</i></p>	<p><b>Career/Technical Student Organization:</b></p>

## **Criminal Justice - Year 1**

### **7193 Principles of Criminal Justice**

Principles of Criminal Justice covers the purposes, functions, and history of the three primary parts of the criminal justice system: law enforcement, courts, and corrections. This course further explores the interrelationships and responsibilities of these three primary elements of the criminal justice system.

- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

### **7188 Corrections and Cultural Awareness**

Corrections and Cultural Awareness emphasizes the study of American criminal justice problems and systems in historical and cultural perspectives, as well as discussing social and public policy factors affecting crime. Multidisciplinary and multicultural perspectives are stressed. Additionally, this course takes a further examination of the American correctional system; the study of administration of local, state, and federal correctional agencies. The examination also includes the history and development of correctional policies and practices, criminal sentencing, jails, prisons, alternative sentencing, prisoner rights, rehabilitation, and community corrections including probation and parole. Current philosophies of corrections and the debates surrounding the roles and effectiveness of criminal sentences, institutional procedures, technological developments, and special populations are discussed.

- Required Prerequisites: Principles of Criminal Justice; Law Enforcement Fundamentals
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

### **7191 Law Enforcement Fundamentals**

Law Enforcement Fundamentals Critically examines the history and nature of the major theoretical perspectives in criminology, and the theories found within those perspectives. Analyzes the research support for such theories and perspectives, and the connections between theory and criminal justice system practice within all the major components of the criminal justice system. Demonstrates the application of specific theories to explain violent and non-violent criminal behavior on both the micro and macro levels of analysis. Additionally, this course will introduce fundamental law enforcement operations and organization. This includes the evolution of law enforcement at federal, state, and local levels.

- Required Prerequisites: Principles of Criminal Justice
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

## **Culinary Arts**

<b>Important to Know:</b> Basic math and literacy foundational skills Ability to lift up to 30lbs. and stand for extended periods	<b>Program Cost:</b> Year 1 - \$48.00 Year 2 - n/a	<b>Potential Careers:</b> Chef, Pastry Chef, Caterer, Kitchen and Restaurant Manager, Server, Nutritionist
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Follow Health Department regulations for kitchen sanitary purposes		<i>*some careers may require post-secondary</i>
<b>Dual Credit:</b> Year 1: 6 REST 100/REST 120 Year 2: 5 CULN 110	<b>Certifications:</b> Year 1 & Year 2- ServSafe	<b>Career/Technical Student Organization:</b>

## **Culinary Arts - Year 1**

### **7173 Principles of Culinary and Hospitality**

Principles of Culinary and Hospitality is designed to develop an understanding of the hospitality industry and career opportunities, and responsibilities in the food service. Introduces procedures for decision making which affects operation management, products, labor, and revenue. Additionally, students will learn the fundamentals of food preparation, basic principles of sanitation, service procedures, and safety practices in the food service industry including proper operation techniques for equipment.

- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

### **7169 Culinary Arts**

Culinary Arts teaches students how to prepare the four major stocks, the five mother sauces (in addition to smaller sauces) and various soups. Additional emphasis is placed on the further development of the classical cooking methods. This course will also present the fundamentals of baking science including terminology, ingredients, weights and measures, and proper use and care of equipment. Students will produce yeast goods, pies, cakes, cookies, and quick breads.

- Required Prerequisites: Principles of Culinary and Hospitality
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

### **7171 Nutrition**

Nutrition students will learn the characteristics, functions and food sources of the major nutrient groups and how to maximize nutrient retention in food preparation and storage. Students will be made aware of nutrient needs throughout the life cycle and to apply those principles to menu planning and food preparation. This course will engage students in hands-on learning of nutritional concepts such as preparing nutrient dense meals or examining nutritional needs of student athletes

- Required Prerequisites: Principles of Culinary and Hospitality
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

## **Culinary Arts - Year 2**

### **7233 Culinary Arts Capstone**

This course covers the techniques and skills needed in breakfast cookery as well as insight into the pantry department. Various methods of preparation of eggs, pancakes, waffles and cereals will be discussed. Students will receive instruction in salad preparation, salad dressing, hot and cold sandwich preparation, garnishes and appetizers. This course also covers the necessary skills for proper recruiting, staffing, training, and management of employees at various levels. The course will help prepare the student for the transition from employee to supervisor. Additionally, it will help the student evaluate styles of leadership, and develop skills in human relations and personnel management.

- Required Prerequisites: Principles of Culinary and Hospitality; Nutrition; Culinary Arts
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max
- Counts as a Directed Elective or Elective for all diplomas

## **Dental Careers**

<p><b>Important to Know:</b>          Ability to comprehend college-level text          Polished verbal skills and the ability to communicate well with adults and peers          Must be able to handle a very structured environment (rules, policies, procedures)          Closed toe shoes, scrubs and PPE required          Transportation is needed for Dental 2 clinicals          Clinicals require 80% or higher grade, skills 90% or higher, zero discipline, no more than 6 absences per semester</p>	<p><b>Program Cost:</b>          Year 1 - \$111.00          Year 2 - \$149.00</p>	<p><b>Potential Careers:</b>          Dental Assistant with Limited Radiography Certification, Dentist(General and Specialist), Hygienist, Dental Laboratory Technician, Dental Receptionist  <i>*some careers may require post-secondary</i></p>
<p><b>Dual Credit:</b>           Year 1 - 3          DENT 171-3</p>	<p><b>Certifications:</b>          Year 1 - CPR, NIMS700A          Year 2 - <i>Limited Radiology is Grad Pathway Approved Certification</i></p>	<p><b>Career/Technical Student Organization:</b></p>

## **Dental Careers - Year 1**

### **7315 Principles of Dental Careers**

Principles of Dental Careers will provide the foundational knowledge and skills necessary to pursue a career in the Dental Field. A focus will be placed on the role of the modern dental assistant and will cover key pre-clinical procedures and beginning dental terminology.

- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

### **7316 Dental Careers Fundamentals**

Dental Careers Fundamentals will build upon the knowledge and skills in the principles course. Students will understand and practice beginning chairside functions of the Dental Assistant along with a focus on the Anatomy and Physiology of the head, neck and oral cavity. Students will also study tooth anatomy, physiology and morphology. This part of the program will prepare students for the Anatomy, Morphology, and Physiology exam of the NELDA certification.

- Required Prerequisites: Principles of Dental Careers
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

### **7317 Advanced Dental Careers**

Advanced Dental Careers Fundamentals will build upon the knowledge and skills developed in the first two courses. Students will study more advanced chairside assisting functions along with advanced infection control techniques. Additionally students will explore preventive dentistry practices and dental emergencies. This course will prepare students for the ICE exam of the NELDA certification.

- Required Prerequisites: Principles of Dental Careers; Dental Careers Fundamentals
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

## **Dental Careers - Year 2**

### **7318 Dental Careers Capstone**

Dental Careers capstone will provide the opportunity for increased skill development in clinical support through work-based learning experiences. Students will also prepare for the Radiation, Health and Safety which is the third and final part of the NELDA certification. The capstone course may also provide the opportunity to review and prepare for the entire NELDA certification.

- Required Prerequisites: Principles of Dental Careers; Dental Careers Fundamentals; Advanced Dental Careers
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

## **Diesel Technology**

*NOTE: Need the 2 year for concentrator status*

<b>Important to Know:</b> Willingness to read and interpret service manual	<b>Program Cost:</b> Year 1 - \$30.00	<b>Potential Careers:</b>
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Ability to lift up to 30lbs. and stand for extended periods Jeans or work pants and gym shoes or work boots are strongly recommended PPE is required Working conditions can be messy	Year 2 - \$50.00	Diesel Maintenance Technician, Fleet Mechanic, Farm Equipment Mechanic, Heavy Equipment Maintenance Specialist
<b>Dual Credit:</b> Year 1 - 5 DESL 110/DESL 110L Year 2 - 9 DESL 130/DESL 130L/DESL 160/DESL 160L AU 126 /AU 127 -  *only earned if attending UNOH	<b>Certifications:</b> Year 1 - Electrical ASE <i>is Grad Pathway Approved Certification</i> Year 2 - Diesel Engine & Preventive Maintenance ASE <i>is Grad Pathway Approved Certification</i>	<b>Career/Technical Student Organization</b>

## **Diesel Technology - Year 1**

### **7216 Principles of Diesel Technology**

This course introduces the maintenance requirements and procedures of modern diesel engines and medium and heavy-duty trucks. Proper procedures and requirements for the Federal Highway Safety Inspection (DOT) will be discussed and practiced. In addition, this course gives students an overview of the electrical operating systems of the modern automobile. Students will be introduced to the safety and operation of equipment and tools used in the electrical diagnosis and repair in the automotive electrical industry. Students will study the fundamentals of electricity and automotive electronics.

- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

### **7210 Diesel Steering and Brakes**

This course studies steering, and suspension systems commonly used on modern tractors and trailers. Study will include steering and suspension components, power steering units, alignment theory and procedures, tire repair and service, and wheel balancing. Diagnosis, repair, and servicing of components including modern air suspension systems will be emphasized. Additionally, this course will cover theory, service, and repair of medium and heavy truck brake systems and their components. Emphasis is given to air brakes and their theory of operation, repair, and service of system components. Spring brakes and anti-lock systems will be studied on tractors and trailers.

- Required Prerequisites: Principles of Diesel Technology
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

## 7156 Technical Skills Development

The Technical Skills Development course may be used to provide students with the opportunity to apply the technical knowledge and skills learned in a Concentrator A or B course through additional real world learning experiences such as lab activities, project based learning or a work-based learning experience. Students must be co-enrolled in a Concentrator A and/or B course in order to be enrolled in the Technical Skills Development course.

- Required Prerequisites: Concurrently enrolled in a Next Level Programs of Study Concentrator A and/or B course.
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum per program of study
- Counts as a directed elective or elective for all diplomas
- May be used by a student more than once as long as it is two separate programs of study.

## Diesel Technology - Year 2

### 7221 Diesel Services Capstone

This course further explores important skills and competencies within the Diesel Technology Pathway. Topics such as Truck Climate Control Systems, Diesel Engine Performance, HT Electrical Systems, Hd Truck Auto. Transmission and Heavy Truck Electronics. Additionally, co-op and internship opportunities will be available for students.

- Required Prerequisites: Principles of Diesel Technology; Diesel Steering and Brakes; Diesel Transmission
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas
- Counts as a quantitative reasoning course

### 7211 Diesel Transmissions

This course explores theory, diagnosis, and overhaul procedures related to manual transmissions and differentials. Course includes service of twin countershaft, under-drive, overdrive, power-dividers, and air shift systems. Additionally, this course studies precision tools, equipment, and procedures needed to repair modern diesel engines. Repair, proper assembly, and component identification are studied along with service of removable cylinder liners.

- Required Prerequisites: Principles of Diesel Technology
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

## Digital Design

<b>Important to Know:</b> Desire to learn traditional illustration Ability to work independently and be a self-starter	<b>Program Cost:</b> Year 1 - \$12.00 Year 2 - none	<b>Potential Careers:</b> Graphic Designer, Film and Photography, Traditional and Digital Illustration, CG Art (Animation, 3d Modeling, Texturing)
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<p><b>Dual Credit:</b> Year 1: 12 DESN 120-3 /DESN 140-3 DESN 155-3 /ARTT 111-3</p>	<p><b>Certification:</b> Year 2 -Adobe Certified Professional <i>is Grad Pathway Approved</i> <i>Certification</i></p>	<p><b>Career/Technical Student Organization:</b></p>
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## **Digital Design - Year 1**

### **7140 Principles of Digital Design**

Principles of Digital Design introduces students to fundamental design theory. Investigations into design theory and color dynamics will provide experiences in applying design theory, ideas and creative problem solving, critical peer evaluation, and presentation skills. Students will have the opportunity to apply the design theory through an understanding of basic photographic theory and technique. Topics will include image capture, processing, various output methods, and light.

- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

### **7141 Digital Design Graphics**

Digital Design Graphics will help students to understand and create the most common types of computer graphics used in visual communications. Skills are developed through work with professional vector-based and page layout software used in the industry. Additionally, students will be introduced to a full range of image input technology and manipulation including conventional photography, digital imaging, and computer scanners. Students will learn to communicate concepts and ideas through various imaging devices.

- Required Prerequisites: Principles of Digital Design
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

### **5550 Graphic Design and Layout**

Graphic Design and Layout teaches design process and the proper and creative use of type as a means to develop effective communications for global, corporate and social application. Students will create samples for a portfolio, which may include elements or comprehensive projects in logo, stationery, posters, newspaper, magazine, billboard, and interface design.

- Required Prerequisites: Principles of Digital Design; Digital Design Graphics
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

## **Digital Design - Year 2**

### **7246 Digital Design Capstone**

The Digital Design Capstone course provides students the opportunity to dive deeper into advanced concepts of Visual Communication including user experience/user interface design, video production editing, animation and/or web design. Depending on the length of the course, students may focus their efforts on one area or explore multiple aspects.

- Required Prerequisites: Digital Design Concentrator Sequence

- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max 2
- Counts as a Directed Elective or Elective for all diplomas

## **Electrical Trades**

<b>Important to Know:</b> Basic math and literacy foundational skills Usage of ladders Gym shoes or work boots and jeans, PPE are required	<b>Program Cost:</b> Year 1 - \$292.00 <i>*supplies purchased year one will be used for year two</i> Year 2 - \$25.00	<b>Potential Careers:</b> Residential Electrician, Commercial Electrician, Fire Alarm Technician, Low Voltage Wiring Technician, Electrical Engineer Apprentice
<b>Dual Credit:</b> Year 1: 3 BCTI 100 Year 2: 10 BCTI 130/BCTI 131/BCTI 132	<b>Certifications:</b> Year 1 & Year 2 OSHA 10 (Electrical Technology) <i>HBI House Wiring is Grad Pathway Approved Certification</i>	<b>Career/Technical Student Organization:</b>

### **Electrical Trades - Year 1**

#### **7130 Principles of Construction Trades**

Principles of Construction Trades prepares students with the basic skills needed to continue in a construction trade field. Topics will include an introduction to the types and uses for common hand and power tools, learn the types and basic terminology associated with construction drawings, and basic safety. Additionally students will study the roles of individuals and companies within the construction industry and reinforce mathematical and communication skills necessary to be successful in the construction field.

- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

#### **7124 Electrical Fundamentals**

This course covers NCCER Electrical Level 1. Its modules cover topics such as orientation to the electrical trade, electrical safety, introduction to electrical circuits, electrical theory, introduction to the National Electrical Code, device boxes, hand bending, raceways and fittings, conductors and cables, basic electrical construction drawings, residential electrical services, and electrical test equipment. The NCCER Electrical Level 1 certificate and wallet card will also be awarded upon successful completion of this course.

- Required Prerequisites: Principles of Construction Trades
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

#### **7119 Advanced Electrical**

Advanced Electrical covers topics such as alternating current, motors: theory and application, electric lighting, conduit bending, and pull and junction boxes. The second part of the course will cover topics such as conductor

installations, cable tray, conductor terminations and splices, grounding and bonding, circuit breakers and fuses, control systems and fundamental concepts. Students will be ready to complete the NCCER Electrical Level 2 certificate upon successful completion of the course.

- Required Prerequisites: Principles of Construction Trades; Electrical Fundamentals
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

## **Electrical Trades - Year 2**

### **7263 Construction Trades Electrical Capstone**

Construction Trades Electrical Capstone builds upon the skills learned in Electrical Fundamentals and Advanced Electrical. Topics include load calculations – branch and feeder circuits, conductor selection and calculations, practical applications of lighting. This course will also cover commercial electrical services including distribution equipment, transformers, and voice, data and video. Completion of this course will prepare students for the NCCER Electrical Level 3 certificate. Students may also complete an Ivy Tech CT by completing coursework in general carpentry.

- Required Prerequisites: Principles of Construction Trades; Electrical Fundamentals; Advanced Electrical
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

## **Fire & Rescue**

<p><b>Important to Know:</b> Attendance is critical due to offsite training Outdoor working conditions High level of physical activity involved</p>	<p><b>Program Cost:</b> \$35.00</p>	<p><b>Potential Careers:</b> Firefighter, Emergency Medical Technician, Paramedic, Dispatcher, Fire Investigator, Fire Inspector</p>
<p><b>Dual Credit:</b>  12 HSPS 102/HSPS 122/HSPS 165/HSPS 167</p>	<p><b>Certifications:</b> CPR, FEMA, First Responder, Hazmat Awareness &amp; Operations, and Technical Rescue Awareness Certification <i>Firefighter I &amp; II is Grad Pathway Approved Certification</i></p>	<p><b>Career/Technical Student Organization:</b></p>

## **Fire & Rescue - Year 1**

### **7195 Principles of Fire and Rescue**

Principles of Fire and Rescue introduces students to the various roles that firefighters and emergency services workers play to protect the public from the loss of life and property. They are frequently the first emergency

personnel at the scene of a traffic accident or medical emergency and may be called upon to put out a fire, treat injuries or perform other vital functions. This course will introduce students to the history, terminology, and basic firefighting skills needed for a beginning firefighter. Additionally students will develop a career plan for a career in public safety; including areas of Fire Science, Homeland Security, and Emergency Medical Services.

- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

### 7186 Advanced Fire Fighting

Advanced Fire Fighting expands upon the principles and techniques of firefighting learned in Fire Fighting Fundamentals. Students will study fire protection systems, firefighter safety and survival. Students will also learn what fire is, the chemical hazards of combustion, and related by-products of fire. Additionally, students will gain a better understanding of fire department organization, administration, operations, and basic strategies and tactics.

- Required Prerequisites: Principles of Fire and Rescue; Fire Fighting Fundamentals
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

### 7189 Fire Fighting Fundamentals

Fire Fighting Fundamentals is for those students who are seeking certification as a firefighter. This course will prepare students for the Hazardous Materials Awareness and Operations certifications and will introduce students to NFPA 1001 which serves as the standard of measurement for all firefighters in North America. Students will learn the knowledge and hands-on practical skills for managing and controlling a hazardous materials incident required for the certifications. Furthermore, students will study how a fire behaves and will learn the basic firefighting skills needed to extinguish a fire while protecting themselves and other firefighters.

- Required Prerequisites: Principles of Fire and Rescue
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

## Fire & Rescue - Year 2

### Health Science

*NOTE: Need the 2 years for concentrator status*

<p><b>Important to Know:</b>          Ability to comprehend college-level text          Interpersonal Skills          Transportation is a <b>MUST</b> for second year students  <b>MUST</b> have a physical prior to entry into Health Science 2          State ID is <b>required</b>          Scrubs required for both years</p>	<p><b>Program Cost:</b>          n/a</p>	<p><b>Potential Careers:</b>          Certified Nurse Assistant, Nursing,          Medical Laboratory Technician,          Ultrasound Technician  <i>*some careers may require post-secondary</i></p>
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Physically demanding field		
<b>Dual Credit:</b>  Year 1 - 9.5 HLHS 100/HLHS 101/HLHS 102/HLHS 104  Year 2- 11 HLHS 107/HLHS 113/HLHS 122	<b>Certifications:</b> Year 1- CPR Year 2- First Aid Certification, Dementia <i>CNA and Home Health  Aide are Grad Pathway  Approved Certification</i>	<b>Career/Technical Student  Organization:</b>

## **Health Science - Year 1**

### **7168 Principles of Healthcare**

Principles of Healthcare content includes skills common to specific health career topics such as patient nursing care, dental care, animal care, medical laboratory, public health, and an introduction to healthcare systems. Lab experiences are organized and planned around the activities associated with the student's career objectives.

- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

### **5274 Medical Terminology**

Medical Terminology 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, all taught within the context of body systems. This course builds skills in pronouncing, spelling, and defining new words encountered in verbal and written information in the healthcare industry. Students have the opportunity to acquire essential skills for accurate and logical communication, and interpretation of medical records. Emphasis is on forming a foundation of a medical vocabulary including; appropriate and accurate meaning, spelling, and pronunciation of medical terms, and abbreviations, signs, and symbols.

- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, maximum of 2 credits
- Counts as a Directed Elective or Elective for all diplomas

### **7156 Technical Skills Development HLTH**

The Technical Skills Development course may be used to provide students with the opportunity to apply the technical knowledge and skills learned in a Concentrator A or B course through additional real world learning experiences such as lab activities, project based learning or a work-based learning experience. Students must be co-enrolled in a Concentrator A and/or B course in order to be enrolled in the Technical Skills Development course.

- Required Prerequisites: Concurrently enrolled in a Next Level Programs of Study Concentrator A and/or B course.
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum per program of study
- Counts as a directed elective or elective for all diplomas
- May be used by a student more than once as long as it is two separate programs of study.

## **Health Science - Year 2**

### **7255 Healthcare Specialist Capstone**

The capstone course will provide Healthcare students with additional knowledge and skills necessary to work in a variety of health care settings beyond a long term care facility, including hospitals, doctor’s offices and clinics. Students can accomplish this goal by completing coursework that will cover topics such as Medical Law and Ethics, Electronic Health Records, and/or Behavioral Health. Schools may offer additional healthcare certifications such as the Certified Clinical Medical Assistant or Phlebotomy along with the coursework or in place of the coursework.

- Required Prerequisites: Principles of Healthcare; Medical Terminology; Healthcare Specialist: CNA, EMT or Certified Clinical Medical Assistant (CCMA)
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max
- Counts as a Directed Elective or Elective for all diplomas

### **7166 Healthcare Specialist: CNA**

The Healthcare Specialist: CNA prepares individuals desiring to work as nursing assistants with the knowledge, skills and attitudes essential for providing basic care in extended care facilities, hospitals and home health agencies under the direction of licensed nurses. The course will introduce students to the disease process and aspects of caring for a long-term care resident with dementia. Individuals who successfully complete this course are eligible to apply to sit for the Indiana State Department of Health (ISDH) certification exam for nursing assistants. This course meets the minimum standards set forth by the ISDH for Certified Nursing Assistant training and for health care workers in long-term care facilities.

- Required Prerequisites: Principles of Healthcare
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

## **Heavy Equipment**

<p><b>Important to Know:</b>  <b>MUST</b> have driver’s license to enroll  PPE and work boots required  Basic math and literacy  foundational skills  Outdoor working conditions</p>	<p><b>Program Cost:</b>  Year 1- \$66.00  Year 2- \$66.00</p>	<p><b>Potential Careers:</b>  Heavy Highway Operator, Underground  Utility Operator, Finish Grade Operator,  Asphalt Construction Operator, Quarry  Equipment Operator, Land Clearing  Operator, Construction Management,  Construction Estimator, Land Surveyor</p>
<p><b>Dual Credit:</b>  3  BCTI 100</p>	<p><b>Certifications:</b>  CPR, OSHA 10, Safety  Training</p>	<p><b>Career/Technical Student  Organization:</b></p>

## **Heavy Equipment - Year 1**

### **7130 Principles of Construction Trades**

Principles of Construction Trades prepares students with the basic skills needed to continue in a construction trade field. Topics will include an introduction to the types and uses for common hand and power tools, learn the types and basic terminology associated with construction drawings, and basic safety. Additionally students will study the roles of individuals and companies within the construction industry and reinforce mathematical and communication skills necessary to be successful in the construction field.

- Required Prerequisites: **MUST have drivers license prior to start of class**
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

### **7290 Heavy Equipment Fundamentals**

Heavy Equipment Fundamentals orients students to the Heavy Equipment industry and the basics operational techniques required to be a Heavy Equipment Operator. Topics include safety, identification of heavy equipment, utility tractors, earthmoving and grades. This course prepares students for the NCCER Heavy Equipment Level 1 certification.

- Required Prerequisites: Principles of Construction Trades
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

### **7291 Advanced Heavy Equipment Operations**

Advanced Heavy Equipment Operations builds upon the earthmoving knowledge learned in Heavy Equipment Fundamentals. Students will gain the necessary skills and knowledge regarding soils, excavation math, and interpreting Civil Drawings to be able to prepare a site. This course will prepare students for the first half of the NCCER Heavy Equipment Operations Level 2.

- Required Prerequisites: Principles of Construction Trades; Heavy Equipment Fundamentals
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

## **Heavy Equipment - Year 2**

### **7292 Heavy Equipment Capstone**

The Heavy Equipment Capstone covers the second part of NCCER Heavy Equipment Level 2 and all of Level 3. Students will learn to operate Loaders, Skid Steers, Rough Terrain Forklifts, Backhoes, and Dozers.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Construction Trades; Heavy Equipment Fundamentals; Advanced Heavy Equipment Operations
- Recommended Prerequisites: None
- 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum

## Veterinary Science

<p><b>Important to Know:</b>          Basic math and literacy foundational skills          Ability to lift, stand and kneel for extended periods          Must be able to handle a very structured environment (rules, policies, procedures)  <u><b>Vet 2 requirement below</b></u>          C or higher in Vet 1          No out of school suspension          No more than 3 discipline referrals          Transportation is a <b>MUST</b> for Vet 2 clinicals</p>	<p><b>Program Cost:</b>          Year 1 - \$85.00          Year 2 - \$90.00</p>	<p><b>Potential Careers:</b>          Veterinarian, Veterinary Nurse, Veterinary Assistant, Zoo Medicine, Laboratory Technician, Animal Chiropractor, Public Health  <i>*some careers may require post-secondary</i></p>
<p><b>Dual Credit:</b>           Year 1 - 3          HIMT 110</p>	<p><b>Certifications:</b>  <i>Certified Veterinary Assistant is Grad Pathway Approved Certification</i>          (through Texas Veterinary Medical Association)</p>	<p><b>Career/Technical Student Organization:</b></p>

### Veterinary Science - Year 1

#### **7280 Principles of Veterinary Science**

Principles of Veterinary Science is a two-semester course that provides students with an overview of the small and large animal veterinary industry which includes companion, food, and exotic animals. Principles of Veterinary Science will cover skills common to specific veterinary career topics such as animal care, veterinary assistant, veterinary technician, and veterinarian. Students will learn foundational veterinary knowledge for large and small animals which includes practical lab skills and common office practices.

- Required Prerequisites: none
- Recommended Prerequisites: Introduction to Agriculture, Food and Natural Resources
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

#### **7281 Veterinary Science**

Veterinary Science is a two-semester course that provides students with opportunities to participate in a variety of activities including laboratory work. Students will explore concepts related to medical terminology, laboratory procedures, clinical examination procedures, principles of animal diseases, as well as work in veterinary clinic management and veterinary law and ethics.

- Required Prerequisites: Principles of Veterinary Science
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

#### **5070 Advanced Life Science, Animals (L)**

Advanced Life Science: Animals is a two-semester course that provides students with opportunities to participate in a variety of activities including laboratory work. Students will explore concepts related to history and trends in animal agriculture as related to animal welfare, husbandry, diseases and parasites, laws and practices relating to

handling, housing, environmental impact, global sustainable practices of animal agriculture, genetics, breeding practices, biotechnology uses, and comparative knowledge of anatomy and physiology of animals used in animal agriculture.

- Required Prerequisites: Principles of Agriculture\*; or Principles of Veterinary Science\*
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Fulfills a science requirement for all diplomas
- Counts as a quantitative reasoning course
- Counts as an elective or directed elective for all diplomas.
- \*Principles course is not required until the 2024-2025 school year because this course is included in Perkins V pathways. Students in the Class of 2025 and beyond must complete the course to earn concentrator status.

## **Veterinary Science - Year 2**

### **7282 Veterinary Science Capstone**

The Veterinary Science Capstone builds upon the knowledge and skills developed in the animal and veterinary courses by developing advanced skills that students can apply to the field. As a capstone course, students should have the opportunity to apply their knowledge and use skills through an intensive work-based learning experience. Students should explore concepts related to pharmacy and pharmacology, medical math, animal nursing, radiology and ultrasound imaging, and surgical preparation and assisting.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Veterinary Science; Advanced Life Science: Animals; Veterinary Science
- Recommended Prerequisites: None
- 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a directed elective or elective for all diplomas

## **Welding Technology**

<p><b>Important to Know:</b>          Basic math and literacy foundational skills          Physical activity involved          PPE is required          Warm surroundings</p>	<p><b>Program Cost:</b>          Year 1 - \$325.00  <i>*supplies purchased year one will be used for year two</i>          Year 2 - \$25.00</p>	<p><b>Potential Careers:</b>          Pipe Fitter, Iron Worker, Steel Fabricator, etc.</p>
<p><b>Dual Credit:</b>          1st year 10          WELD 102/WELD 103/WELD 107           2nd year 9          WELD 104/WELD 105/WELD 106</p>	<p><b>Certifications:</b>          Year 1 - OSHA 10          Year 2 - AWS Certified Welder (3G D1.1 structural) <i>is Grad Pathway Approved Certification</i></p>	<p><b>Career/Technical Student Organization:</b></p>

## **Welding Technology - Year 1**

### **7110 Principles of Welding Technology**

Principles of Welding Technology includes classroom and laboratory experiences that develop a variety of skills in oxy-fuel cutting and basic welding. This course is designed for individuals who intend to make a career as a Welder, Technician, Designer, Researcher, or Engineer. Emphasis is placed on safety at all times. OSHA standards and guidelines endorsed by the American Welding Society (AWS) are used. 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 and be prepared for postsecondary and career success.

- Required Prerequisites: none
- Recommended Prerequisites: Introduction to Advanced Manufacturing
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

### **7101 Gas Welding Processes**

Gas Welding Processes is designed to cover the operation of Gas Metal Arc Welding (MIG) equipment. This will include all settings, adjustments and maintenance needed to weld with a wire feed system. Instruction on both short-arc and spray-arc transfer methods will be covered. Tee, lap, and open groove joints will be done in all positions with solid, flux core, and aluminum wire. Test plates will be made for progress evaluation. Schools may choose to offer the course as a comprehensive MIG Welding course or a combination of introductory MIG and TIG Welding operations.

- Required Prerequisites: Principles of Welding Technology
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Schools may choose to cover both introductory MIG and TIG Welding. This configuration is available for dual credit through ITCC.

### **7111 Shielded Metal Arc Welding**

Shielded Metal Arc Welding involves the theory and application of the Shielded Metal Arc Welding process. Process theory will include basic electricity, power sources, electrode selection, and all aspects pertaining to equipment operation and maintenance. Laboratory welds will be performed in basic weld joints with a variety of electrodes in the flat, horizontal and vertical positions. Emphasis will be placed on developing the basic skills necessary to comply with AWS industry standards.

- Required Prerequisites: Principles of Welding Technology
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

## **Welding Technology - Year 2**

### **7226 Welding Technology Capstone**

The Welding Technology Capstone course builds upon the knowledge and skills developed in Welding Fundamentals, Shielded Metal Arc Welding, and Gas Metal Arc Welding by developing advanced welding skills in Gas Tungsten Arc Welding (TIG), Pipe Welding, and Fabrication. As a capstone course, students should have the opportunity to apply their knowledge and use skills through an intensive work-based learning experience.

- Required Prerequisites: Principles of Welding Technology; Shielded Metal Arc Welding; Gas Welding Processes
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas