

*South Newton
High School*

Kentland, Indiana

**Academic Course
Description Guide
2016-2017**

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Approved by the South Newton Board of School Trustees

Academic Expectations for Students at South Newton High School

1. Students determine possible career objectives in eighth grade to guide the scheduling process.
2. 8th grade students and parents meet with an adult from SNHS to complete a career plan and 4-year plan of study.
3. Students are encouraged to complete a course in mathematics each year of their high school career.
4. Students are encouraged to make college financial plans early in the high school career.
5. Students may not move on to another level of math unless they receive a C- or better.
6. Students may only take one level of English at a time
7. Career clusters are available in the agriculture curriculum.
8. Summer school offerings may be available for credit.
9. Accommodations are made for students with individualized educational plans.

Indian Trails Area Career Center

Students from South Newton High School are eligible to participate in certain vocational courses offered at other area schools under the direction of the Indian Trails Area Career Center located in Monticello, Indiana. These opportunities expand the course selections available to students and will enable them to receive career and technical training in the area that matches their career plan. The member schools offer different courses. These programs focus on career skills and could be an important part of a student's career plan. These programs, including travel time, could consume approximately one-half of the school day. Students attending the high school offering the class will receive the first opportunity to participate in courses offered at their own schools. Please contact the guidance office for further details regarding course opportunities, transportation, certification, and participation.

Dual Credit Courses

Students can receive college credit for successful completion of courses. Students must successfully complete the course work at South Newton and meet the required score on an exit exam. Credit for these courses will be given through participating universities.

College Credit

College credit courses are available. Please contact the guidance office for further details.

Every student should take seven classes each semester for credit unless they have an IEP. A student may receive credit for a class only once unless it is repeatable such as SAE, Adv. 3D or choir. One full credit shall consist of five classroom periods per week for one semester. *Additional preparation outside the classroom may be necessary for course completion.

Any student auditing a course will not receive a grade or credit.

Required courses are arranged below.

Students are required to meet the standard for the Graduation Qualifying Exam.

Each student must be enrolled in high school for eight semesters, however, seniors who have completed all requirements by the end of their 7th semester, may qualify for early graduation according to board policy.

Grade 9

English 9

Phy. Ed. I/Prep College & Careers

Science

Math

Grade 10

English 10

Health & Wellness /Phy. Ed. II

Math

Science

World History & Civilization

Grade 11

English 11

U.S. History

Math

Science

Grade 12

English 12

U.S. Government/Econ.

South Newton High School requires 42 credits to receive a diploma. There are different diplomas available, depending on courses taken and the level of success earned. The following chart shows what is needed to achieve each of these. However, 42 credits are needed for each at South Newton High School.

Some need-based aid may be available from the state for qualifying students who complete the FAFSA during January or February of their senior year.

INDIANA CORE40

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

*** South Newton requires 42 credits to receive a diploma**

CORE40 with Academic Honors *(minimum 47 credits)*

For the **Core 40 with Academic Honors** diploma, students must:

- Complete all requirements for Core 40.
- Earn 2 additional Core 40 math credits.
- Earn 6-8 Core 40 world language credits.
- Earn 2 Core 40 fine arts credits.
- Earn a grade of “C” or above in courses that will count toward the diploma.
- Have a grade point average of “B” or above.
- Complete one of the following:
 - A. Earn 4 credits in 2 or more AP courses and take corresponding AP exams,
 - B. Earn 6 verifiable transcribed college credits in dual credit courses from priority course list
 - C. Earn 2 of the following:
 1. A minimum of 3 verifiable transcribed college credits from the priority course list,
 2. 2 credits in AP courses and corresponding AP exams,
 3. 2 credits in IB standard level courses and corresponding IB exams.
 - D. Earn a combined score of 1750 or higher on the SAT critical reading, mathematics and writing Sections and a minimum score of 530 on each
 - E. Earn an ACT composite score of 26 or higher and complete written section
 - F. Earn 4 credits in IB courses and take corresponding IB exams.

*SAT requirements will be modified with the addition of the writing section.

CORE40 with Technical Honors *(minimum 47 credits)*

For the **Core 40 with Technical Honors** diploma, students must:

- Complete all requirements for Core 40.
- Earn 6 credits in the college and career preparation courses in a state approved College and Career Pathway and one of the following:
 1. Pathway designated industry-based certification or credential, or
 2. Pathway dual credits from the lists of priority courses resulting in 6 transcribed college credits
- Earn a grade of “C” or above in courses that will count toward the diploma.
- Have a grade point average of “B” or better.
- Complete one of the following,
 - A. Any one of the options (A-F) of the Core 40 with Academic Honors
 - B. Earn the following scores or higher on WorkKeys; Reading for Information-Level 6, Applied Mathematics-Level 6, and locating information-Level 5.
 - C. Earn the following minimum score(s) on Accuplacer; Writing 80, Reading 90, Math 75
 - D. A state approved industry recognized certification**

INDIANA CORE40 Your Academic Edge

- **Challenging Courses = Big Rewards.** Students who take strong academic courses in high school are more likely to enroll in college and earn a degree. That's important, because higher education pays: On average, college graduates earn more than a million dollars more over a lifetime than those with only a high school education. High school graduates earn 42 percent more than high school dropouts. Core 40 pays.
- **More Career Options.** Good jobs require education beyond high school. That means if you want a job that will support you and your future family, provide health benefits and offer a chance for advancement, you'll need to complete a two- or four-year degree, apprenticeship program, military training, or workforce certification. If you are planning to go directly to work after high school graduation, you will still need to be prepared for training and retooling throughout your lifetime. Core 40 gives you more options — and more opportunities — to find a career with a real future.
- **What Employers and Training Programs Want.** Employers, apprenticeship programs and the military all agree – they expect you to arrive with essential skills, including speaking and writing clearly, analyzing information, conducting research, and solving complex problems. The expectations are the same: You need Core 40.

Preparation for College Success. It's not just about getting in — it's about finishing. To succeed in college-level work, students need to complete Core 40 in high school. Anything less may mean taking remedial (high school) coursework in college, which means it will take you longer to finish and will cost you more in college tuition. It also means you'll have a greater chance of dropping out before you get your degree. That's why Core 40 is a college admissions requirement: In fall 2011 you won't be able to start at a four-year public Indiana college without Core 40 (or a documented equivalent). Most private colleges require students to have at least this level of high school academic preparation. Core 40 is your best preparation for success.

- **Money for College.** The Core 40 diploma can help you earn money for college. Indiana students who complete a Core 40 diploma and meet other financial aid and grade requirements can receive up to 90 percent of approved tuition and fees at eligible colleges. Core 40 with Academic Honors graduates can receive up to 100 percent and some colleges also offer their own scholarships specifically for students who earn this diploma.

Succeeding With Core 40

Core 40 becomes Indiana's required high school curriculum in fall 2007. Students entering high school at that time will be expected to complete Core 40 as a graduation requirement.

By providing all Indiana students a balanced sequence of academically rigorous high school courses in the core subjects of English/language arts, mathematics, science and social studies; physical education/health and wellness; and electives including world languages, career/technical, and fine arts, the Core 40 requirement gives all our students the opportunity to compete with the best. That's great news for Indiana students.

To graduate with less than Core 40, a student must complete a formal opt-out process involving parental consent. See your school counselor for full details. For more information about Core 40 and your career and course plan, see your counselor and visit Learn More Resource Center at www.learnmoreindiana.org.

Indiana General High School Diploma

Beginning with students who enter high school in 2007–2008, the completion of Core 40 becomes an Indiana graduation requirement. Indiana’s Core 40 curriculum provides the academic foundation all students need to succeed in college and the workforce.

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

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

Course and Credit Requirements

English/Language Arts	8 credits
	Credits must include literature, composition and speech
Mathematics	4 credits
	2 credits: Algebra I or Integrated Mathematics I 2 credits: any math course
Science	4 credits
	2 credits: Biology I 2 credits: any science course
Social Studies	4 credits
	2 credits: U.S. History 1 credit: U.S. Government 1 credit: any social studies course
Physical Education	2 credits
Health and Wellness	1 credit
Career Academic Sequence*	6 credits
Flex Credit	5 credits
	To earn 5 Flex Credits a student must complete one of the following: <ul style="list-style-type: none"> • Additional courses to extend the career academic sequence • Courses involving workplace learning, which may include the following courses: <ul style="list-style-type: none"> ○ Career exploration internship ○ Professional career internship ○ Business cooperative experiences ○ Cooperative family and consumer sciences ○ Industrial cooperative education ○ Interdisciplinary cooperative education ○ Marketing field experience • High school/college dual credit courses • Additional courses in: <ul style="list-style-type: none"> ○ Language Arts ○ Social Studies ○ Mathematics ○ Science ○ World Languages ○ Fine Arts
Electives**	6 credits
40 Total State Credits Required	

LANGUAGE ARTS

English 9

Grade 9

2 Semesters

2 Credits

Description: A required two-term course for students. An integrated English course based on Indiana's Academic Standards for English/Language Arts in Grade 9 and the Common Core State Standards for English/Language Arts, is a study of language, literature, composition, and oral communication with a focus on exploring a wide-variety of genres and their elements. Students use literary interpretation, analysis, comparisons, and evaluation to read and respond to literature balanced with nonfiction. Students write short stories, responses to literature, expository and persuasive compositions, research reports, business letters, and technical documents. Students deliver grade-appropriate oral presentations and access, analyze, and evaluate online information.

English 10

Grade 10

2 Semesters

2 Credits

Prerequisite: Successful completion of English 9.

Description: A required two-term course. An integrated English course based on Indiana's Academic Standards for English/Language Arts in Grade 10 and the Common Core State Standards for English/Language Arts, is a study of language, literature, composition, and oral communication with a focus on exploring universal themes across a wide variety of genres. Students use literary interpretation, analysis, comparisons, and evaluation to read and respond to literature balanced with nonfiction. Students write short stories, responses to literature, expository and persuasive compositions, research reports, business letters, and technical documents. Students deliver grade-appropriate oral presentations and access, analyze, and evaluate online information.

English 10 Honors

Grade 10

2 Semesters

2 Credits

Prerequisite: No less than an A average in English 9 or consent of instructor.

Description: A required two-semester course of intensive study for 10th graders. Principle goals of the course are (1) to develop an appreciation of the genres and authors in literature; (2) to foster analytical skills by using both literature and composition; (3) to promote better written and spoken usage of the language; and (4) to increase vocabulary. Honors students will write, discuss, and read at a more advanced level and focus on a specific unifying theme.

English 11

Grade 11

2 Semesters

2 Credits

Prerequisites: Successful completion of English 9 and 10

Description: An integrated English course based on Indiana's Academic Standards for English/Language Arts in Grade 11 and the Common Core State Standards for English/Language Arts, is a study of language, literature, composition, and oral communication with a focus on exploring universal themes and 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 appropriate for grade 11 in

classic and contemporary literature balanced with nonfiction. Students write fictional narratives, short stories, responses to literature, reflective compositions, historical investigation reports, resumes, and technical documents incorporating visual information in the form of pictures, graphs and tables. Students write and deliver grade-appropriate multimedia presentations and access, analyze, and evaluate online information.

English Lang & Comp AP/111 Ivy Tech

Grade 11-12

2 Semesters

2 Credits

Prerequisites: Successful completion of English 9 and English 10 Honors or consent of the instructor.

Description: An advanced placement course based on content established by the College Board. An AP course in English Language and Composition engages students in becoming skilled readers of prose written in a variety of rhetorical contexts, and in becoming skilled writers who compose for a variety of purposes. Both their writing and their reading should make students aware of the interactions among a writer's purposes, audience expectations, and subjects as well as the way generic conventions and the resources of the language contribute to effectiveness in writing.

English Lit & Comp AP/206 Ivy Tech

Grade 12

2 Semesters

2 Credits

Prerequisites: Successful completion of English 9 and English 10 Honors, and English Lang/Comp AP

Description: An advanced placement course based on content established by the College Board. An AP English course in Literature and Composition engages students in the careful reading and critical analysis of imaginative literature. Through the close reading of selected texts, students deepen their understanding of the ways writers use language to provide both meaning and pleasure for their readers. As they read, students consider a work's structure, style, and themes as well as such smaller-scale elements as the use of figurative language, imagery, symbolism, and tone. The course includes intensive study of representative works from various genres and periods, concentrating on works of recognized literary merit.

English 12

Grade 12

2 Semesters

2 Credits

Prerequisite: Successful completion of English 9, 10, 11 or English Lang/Comp AP

Description: An integrated English course based on Indiana's Academic Standards for English/Language Arts in Grade 12 and the Common Core State Standards for English/Language Arts, is a study of language, literature, composition, and oral communication focusing on an exploration 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 appropriate for grade 12 in classic and contemporary literature balanced with nonfiction. Students write fictional narratives, short stories, responses to literature, reflective compositions, historical investigation reports, resumes, and technical documents incorporating visual information in the form of pictures, graphs and tables. Students write and deliver grade-appropriate multimedia presentations and access, analyze, and evaluate online information.

English as a New Language (ENL)

Grades 9-12

4 Semesters (maximum)

1 Credit per semester (maximum of 4)

Prerequisite: First or native language must be something other than English. Student should be at a limited English proficient level of 1, 2, 3 or 4. English proficiency placement test results

Description: English as New Language, an integrated English course based on Indiana's language Proficiency (ELP) Standards, is the study of language, literature, composition and oral communication for Limited English Proficient (LEP) students 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.

Recommended Grade Level: The intent of the ENL course is to move students as successfully, smoothly, and rapidly as possible into the Core 40 English courses offered in grades 9-12.

English/Language Arts credit (1012): If ENL course work addresses Indiana's Academic Standards for English/Language Arts, up to four (4) credits accrued can be counted as part of the eight (8) required English/Language Arts credits for the General, Core 40, Core 40 with Academic Honors and Core 40 with Technical Honors diplomas.

World Language Credit (2188): If ENL course work addresses Indiana's Academic Standards for World Languages and is taken concurrently with another English/Language Arts course, up to four (4) credits accrued may count as World Language credits for the General, Core 40, Core 40 with Academic Honors and Core 40 with Technical Honors diplomas.

World Languages

Spanish I

Grades 9-12

2 Semesters

2 Credits

A Course based on Indiana's Academic Standards for World Languages, introduces students to effective strategies for beginning Spanish language learning, and to various aspects of Spanish-speaking culture. This course encourages interpersonal communication through speaking and writing, providing opportunities to make and respond to basic requests and questions, understand and use appropriate greetings and forms of address, participate in brief guided conversations on familiar topics, and write short passages with guidance. This course also emphasizes the development of reading and listening comprehension skills, such as reading isolated words and phrases in a situational context and comprehending brief written oral directions. Additionally, students will examine the practices, products and perspectives of Spanish-speaking culture; recognize basic routine practices of the target culture; and recognize and use situation-appropriate non-verbal communication. This course further emphasizes making connections across content areas and the application of understanding Spanish language and culture outside the classroom.

Spanish II

Grades 10-12

2 semesters

2 credits

Prerequisite: Spanish I

A course based on Indiana's Academic Standards for World Languages, builds upon effective strategies for Spanish Language learning by encouraging the use of the language and cultural understanding for self-directed purposes. This course encourages interpersonal communication through speaking and writing, providing opportunities to make and respond to requests and questions in expanded contexts, participate independently in brief conversations on familiar topics, and write cohesive passages with greater independence and using appropriate formats. This course also emphasizes the development of reading and listening comprehension skills, such as using contextual clues to guess meaning and comprehending longer written or oral directions. Students will address the presentational mode by presenting prepared material on a variety of topics, as well as reading aloud to practice appropriate pronunciation and intonation. Additionally, students will describe the practices, products and perspectives of Spanish-speaking culture; report on basic family and social practices of the target culture; and describe contributions from the target culture. This course further emphasizes making connections across the content areas and the application of understanding Spanish language and culture outside of the classroom.

Spanish III

Grades 11-12

2 Semesters

2 Credits

Prerequisites: Spanish I and II

A course based on *Indiana's Academic Standards for World Languages*, builds upon effective strategies for Spanish language learning by facilitating the use of the language and cultural understanding for self-directed purposes. This course encourages interpersonal communication through speaking and writing, providing opportunities to initiate, sustain and close conversations; exchange detailed information in oral and written form; write cohesive information with greater detail. This course also emphasizes the continued development of reading and listening comprehension skills, such as using cognates, synonyms and antonyms to derive meaning from written and oral information, as well as comprehending detailed written or oral directions. Students will address the presentational mode by presenting student-created material on a variety of topics, as well as reading aloud to practice appropriate pronunciation and intonation. Additionally, students will continue to develop understanding of Spanish-speaking culture through recognition of the interrelations among the practices, products and perspectives of the target culture; discussion of significant events in the target culture; and investigation of elements that shape cultural identity in the target culture. This course further emphasizes making connections across content areas as well the application of understanding Spanish language and culture outside of the classroom.

Spanish IV

Grade 12

2 semesters

2 credits

Prerequisites: Spanish I, II, III

A course based on Indiana's Academic Standards for World Languages, provides a context for integration of the continued development of language skills and cultural understanding with other content areas and the community beyond the classroom. The skill sets that apply to the exchange of written and oral information are expanded through emphasis on practicing speaking and listening strategies that facilitate communication, such as the use of circumlocution, guessing meaning in familiar and unfamiliar contexts, and using elements of word formation to expand vocabulary and derive meaning. Additionally, students

will continue to develop understanding of Spanish-speaking culture through explaining factors that influence the practices, products and perspectives of the target culture; reflecting on cultural practices of the target culture; and comparing systems of the target culture and the student's own culture. This course further emphasizes making connections across content areas through the design of activities and materials that integrate the target language and culture with concepts and skills from other content areas. The use and influence of the Spanish language and culture in the community beyond the classroom is explored through the identification and evaluation of resources intended for native Spanish speakers.

Spanish AP-Not Offered

Grade 12

2 Semesters

2 Credits

Prerequisites: Spanish I, II, III

Spanish Language Advanced Placement is a course based on content established by the College Board. Emphasizing the use of the Spanish language for active communication, the AP Spanish Language course has as its objective the development of advanced listening comprehension, reading without the use of a dictionary, expanded conversational skills, fluent and accurate written expression, and strong command of vocabulary and structure of the Spanish language. Course content might best reflect interests shared by the students and the teacher, e.g. the arts, current events, sports, etc. The AP Spanish language course seeks to develop language skills that are useful in themselves and that can be applied to various activities and disciplines rather than being limited to any specific body of subject matter. Extensive practice in the organization and writing of compositions should also be emphasized.

MATHEMATICS

College & Career Bridge: Math Ready

Grades 11-12

2 Semesters

2 Credits

CCR Bridge: Math Ready will include and reinforce the Algebra I, Geometry, Algebra 2 and Statistics necessary to be ready for entry-level college math. This course emphasizes understanding of math concepts rather than just memorizing procedures. CCR Bridge: Math Ready teaches the context behind the procedure: for example, why to use a certain formula or method to solve a problem. Students will build higher-order thinking skills in order to apply math skills, functions and concepts in various situations.

Or we will offer Finite Math

Finite Mathematics

Grade 11-12

2 Semesters

2 Credits

Recommended Pre-requisite: Algebra II

Description: Finite math is an umbrella of mathematical topics. It is a course designed for students who will undertake higher –level mathematics in college that may not include calculus. Topics include: Sets, matrices, Networks, Optimization, and Probability. Technology, such as computers and graphing calculators, should be used frequently. The process Standards for mathematics apply throughout each course and, together with the content 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.

Algebra I Lab

Grades 9-10

2 Semesters

2 Credits

Counts as a Mathematics Course for the General Diploma only. Elective course for Core 40, Core 40 with Academic Honors and Core 40 Technical Honors diplomas.

Must be enrolled in Algebra I.

Prerequisite: None

Description: Algebra I Lab is a mathematic support course for Algebra I. The course provides students with additional time to build the foundations necessary for high school math courses, while concurrently having access to rigorous, grade-level appropriate courses. The five critical areas of Algebra I Lab align with the critical areas of Algebra I: Relationships between quantities and Reasoning with Equations; Linear and Exponential Relationships; Descriptive Statistics; Expressions and Equations; and Quadratic Functions and Modeling. 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.

Algebra I

Grades 9-12

2 Semesters

2 Credits

Description: Algebra I formalizes and extends the mathematics students learned in the middle grades. Five critical areas comprise Algebra I: Relations and Functions; Linear Equations and Inequalities; Quadratic and Nonlinear Equations; Systems of Equations and Inequalities; and Polynomial Expressions. The critical areas deepen and extend understanding of linear and exponential relationships by contrasting them with each other and by applying linear models to data that exhibit a linear trend, and students engage in methods for analyzing, solving, and using quadratic functions. The Mathematical Practice Standards apply throughout each course and, together with content standards, prescribe that students experience mathematics and a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations.

Geometry

Grades 9-12

2 Semesters

2 Credits

Prerequisite: C- or better in Algebra I

Description: 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. Six critical areas comprise the Geometry course: Congruency and Similarity; Measurement; Analytic Geometry; Circles; and Polyhedra. Close attention should be paid to the introductory content for the Geometry conceptual category found in the high school INCC The Mathematical Practice Standards apply throughout each course and, together with the content 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.

Algebra II

Grades 10-12

2 Semesters

2 Credits

Prerequisite: C- or better in Algebra I. Students choosing to take Algebra II and Geometry simultaneously may do so based only on the recommendation of previous mathematics teachers.

Description: 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 Mathematical Practice Standards apply throughout each course and together with the content 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.

Pre-Calculus/Trigonometry Dual Credit-Ivy Tech

Grades 11-12

2 Semesters

2 Credits

Prerequisite: A grade of C- or higher in Algebra II or teacher recommendation.

Description: A two-credit course that combines the material from Trigonometry and Pre-Calculus into one course. The foundations of algebra and functions developed in previous courses will be extended to new functions, including exponential and logarithmic functions, and to higher-level sequences and series. The course provides students with the skills and understandings that are necessary for advanced manipulation of angles and measurement. Students will also advance their understanding of imaginary numbers through an investigation of complex numbers and polar coordinates. 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.

Calculus AB, AP

Grade 12

2 Semesters

2 Credits

Prerequisite: A grade of B or higher in Pre-Calculus

Description: Calculus AB, Advanced Placement is a course based on content established by the College Board. Calculus AB is primarily concerned with developing the student's understanding of the concepts of calculus and providing experience with its methods and applications. The course emphasizes a multi-representational approach to calculus, with concept results, and problems being expressed graphically, numerically, analytically, and verbally. The connections among these representations are also important. Topics include: (1) functions, graphs, and limits; (2) derivatives; and (3) integrals. Technology should be used regularly by students and teachers to reinforce the relationships among the multiple representations of functions, to confirm written work, to implement experimentation, and to assist in interpreting results.

Probability & Statistics -Not offered

Grades 11-12

1 Semester

1 Credit

Prerequisite: A grade of C- or higher in Algebra II.

Description: Probability and Statistics includes the concepts and skills needed to apply statistical techniques in the decision-making process. Topics include: 1) descriptive statistics, 2) probability, and 3) statistical inference. Practical examples based on real experimental data are used throughout. Students plan and conduct experiments or surveys and analyze the resulting data. The use of graphing calculators and computer programs is encouraged.

Mathematics Lab

Grades 10-12

2 Semesters

2 Credits

Prerequisite: Below standard scores on ECA/GQE

Description: Mathematics Lab provides students with individualized instruction designed to support success in completing mathematics coursework aligned with Indiana's Academic Standards for Mathematics. It is recommended that Mathematics Lab be taken in conjunction with a Core 40 mathematics course, and the content of Mathematics Lab should be tightly aligned to the contents of its corresponding course. Mathematics Lab should not be offered in conjunction with Algebra I; instead schools should offer Algebra Enrichment to provide students with rigorous support for this course.

SCIENCE DEPARTMENT

Biology I

Grade 9-10

2 Terms

2 Credits

Prerequisite: None

Description: This first year biology course fulfills the state and local biology graduation requirement and is a Core 40 course. A thematic approach is taken to the study of the structures and functions of living things and their interactions with their environment. The content is organized into eight major units or themes: 1) Nature of Science, 2) Cell Structure and Function, 3) Genetics, 4) Evolution, 5) Diversity of Life, 6) Ecology, 7) Biotechnology, and 8) Intro to Biochemistry. Evolution is stressed as the unifying principle throughout the course. Major topics are reinforced through a variety of activities including field studies, simulations, laboratory activities, research projects and cooperative learning activities.

Earth and Space Science I-Not offered

Grades 9-12

2 Semesters

2 Credits

Prerequisite: None

Description: Earth and Space Science I is a course based on the following core topics: study of the earth's layers; atmosphere and hydrosphere; structure and scale of the universe; the solar system and earth processes. Students analyze and describe earth's interconnected systems and examine how earth's materials, landforms, and continents are modified across geological time. 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 evaluating and communicating the results of those investigations according to accepted procedures.

Integrated Chemistry/Physics

Grades 9-12

2 Semesters

2 Credits

Prerequisite: Algebra I recommended (may be taken in conjunction with this course)

Description: Integrated Chemistry-Physics is a course focused on the following core topics: motion and energy of macroscopic objects; chemical, electrical, mechanical and nuclear energy; properties of matter;

transport of energy; magnetism; energy production and its relationship to the environment and economy. 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.

Anatomy and Physiology

Grades 10-12

2 Semesters

2 Credits

Prerequisite: Biology I, grade B or better & Chemistry I (can take Chemistry I concurrently) or consent of instructor.

Description: This elective **ADVANCED** biology course is designed for college bound students interested in pursuing careers in the health services, medicine, or human biology. Anatomy & Physiology is a course in which students 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, skeleton, 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.

Chemistry I

Grades 10-11

2 Semesters

2 Credits

Prerequisite: Algebra I, grade C or better, can take concurrently.

Description: Chemistry I is a course based on the following core topics: properties and states of matter; atomic structure; bonding; chemical reactions; solution chemistry; behavior of gases, and organic chemistry. Students enrolled in Chemistry I compare, contrast, and synthesize useful models of the structure and properties of matter and the mechanisms of its interactions. 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.

Biology AP

Grades 11-12

2 Semesters

2 Credits

Prerequisites: Biology I, Chemistry I or consent of instructor (recommended, Anatomy & Physiology or Chemistry II)

Description: This course is designed around the content established by the College Board. 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. **The content is presented at an introductory college level** with major concepts reinforced through laboratory activities. This is a good course to prepare for a Life Science/Health Science college major.

Chemistry II

Grades 11-12

2 Semesters

2 Credits

Prerequisites: Chemistry I, Algebra II, grade B or higher or consent of instructor.

Description: 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.

SOCIAL STUDIES

World History & Civilization

Grade 9-11

2 Semesters

2 Credits

Required HS course

Description: emphasizes events and developments in the past that greatly affected large numbers of people across broad areas and that significantly influenced peoples and places in subsequent eras. Key events related to people and places as well as transcultural interaction and exchanges are examined in this course. Students are expected to compare and contrast events and developments involving diverse peoples and civilizations in different regions of the world. They will examine examples of continuity and change, universality and particularity, and unity and diversity among various peoples and cultures from past to the present. Students are also expected to practice skills and process of historical thinking and research and apply content knowledge to the practice of thinking and inquiry skills and processes. There will be continuous and pervasive interactions of processes and content, skills and substance, in the teaching and learning of history.

United States History/DC Ivy Tech

Grade 11

2 Semesters

2 Credits

Required course for Grade 11

Description: US History builds upon concepts developed in previous studies of U.S. History. Students are expected to identify and review significant events, persons, and movements in the early development of the nation. The course then gives major emphasis to the interaction of key events, people, and political, economic, social, and cultural influences in national developments from the late nineteenth century through the present. Students are expected to trace and analyze chronological periods and examine the significant themes and concepts in U.S. History. They will develop historical thinking and research skills and use primary and secondary sources to explore topical issues and to understand the cause for changes in the nation over time.

United States Government

Grade 12

1 Semester

1 Credit

Required course for Grade 12

Description: This course provides a framework for understanding the purposes, principles, and practices of constitutional representative democracy in the United States. Responsible and effective participation of citizens is stressed. Students will understand the nature of citizenship, politics, and governments and understand the rights and responsibilities of citizens and how these are part of local, state, and national government. Students will examine how the United States Constitution protects rights and provides the structure and functions of various levels of government. How the United States interacts with other nations and the government's role in world affairs will be examined. Using primary and secondary resources, students will articulate, evaluate, and defend positions on political issues. As a result, they will be able to explain the role of individuals and groups in government, political and civic activities and the need for civic and political engagement of citizens in the United States.

Economics

Grade 12

1 Semester

1 Credit

Required course for Grade 12

Description: Economics examines the allocation of resources and their uses for satisfying human needs and wants. The course analyzes economic reasoning used by consumers, producers, savers, investors, workers, voters, and government in making decisions. Key elements of the course include study of scarcity and economic reasoning, supply and demand, market structures, role of government, national income determination, the role of financial institutions, economic stabilization, and trade. Students will explain that because resources are limited, people must make choices and understand the role that supply, demand, prices, and profits play in a market economy. The behavior of people, societies and institutions and economic thinking is integral to this course.

Psychology

Grades 11-12

1 Semester

1 Credit

Prerequisite: None

Description: Psychology is the scientific study of mental processes and behavior. The course is divided into six content areas and uses scientific methods to explore research methods and ethical consideration. Developmental psychology takes a life span approach to physical, cognitive, language, emotional, social, and moral development. Cognitive aspects of the course focus on learning, memory, information processing, and language. Personality, Assessment, and Mental Health topics include psychological disorders, treatment, personality, and assessment. Socio-cultural dimensions of behavior deal with topics such as conformity, obedience, perceptions, attitudes, and influence of the group on the individual.

Sociology

Grades 11-12

1 Semester

1 Credit

Prerequisite: None

Description: Allow 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 will describe the development of sociology as a social science and identify methods of research. Through research methods

such as scientific inquiry students will 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.

FINE ARTS

Digital Design I

Grades 9-12

1 Credit per Semester

The nature of this course allows for successive semesters of instruction at an advanced level.

Prerequisite: None

Description: An elective course based on the Indiana Academic Standards for Visual Art. Students in digital design engage in sequential learning experiences that encompass art history, art criticism, aesthetics, and production and lead to the creation of portfolio quality works. They incorporate desktop publishing, multi-media, digitized imagery, computer animation, and web design. 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.

Digital Design II

Grades 10-12

1 Credit per Semester

The nature of this course allows for successive semesters of instruction at an advanced level.

Prerequisite: Digital Design I

Description: An elective course that builds on the knowledge gained in the introductory class and continues in the area of web development. This course may be repeated and in that case, will be geared for the individual student.

Drawing

Grades 9-12

1 Semester

1 Credit

The nature of this course allows for successive semesters of instruction at an advanced level.

Prerequisite: None

Description: 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.

Painting

Grades 9-12

1 Semester

1 Credit

The nature of this course allows for successive semesters of instruction at an advanced level.

Prerequisite: None

Description: 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.

Advanced Two-Dimensional Art

Grades 10-12

1 Semester

1 Credit

The nature of this course allows for successive semesters of instruction at an advanced level.

Prerequisite: Credits in Drawing and Painting

Description: A course based on the Indiana Academic Standards for Visual Art. Students in this course build on the sequential learning experiences of Introduction to two-dimensional art that encompass art history, art criticism, aesthetics, and production and lead to the creation of portfolio quality works. Students explore historical and cultural background and connections; analyze, interpret, theorize, and make informed judgments about artwork and the nature of art; create two-dimensional works of art, reflect upon the outcomes, and revise their work; relate art to other disciplines and discover opportunities for integration; and incorporate literacy and presentational skills. They identify ways to utilize and support art museums, galleries, studios and community resources.

Ceramics

Grades 9-12

1 Semester

1 Credit

The nature of this course allows for successive semesters of instruction at an advanced level.

Prerequisite: None

Description: A course based on the Indiana Academic Standards for Visual Art. Students in ceramics 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 art in clay utilizing the processes of hand building molds, wheel throwing, slip and glaze techniques, and the firing 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.

Sculpture

Grades 9-12

1 Semester

1 Credit

The nature of this course allows for successive semesters of instruction at an advanced level.

Prerequisite: None

Description: A course based on the Indiana Academic Standards for Visual Art. Students in sculpture engage in sequential learning experiences that encompass art history, art criticism, aesthetics, and production. Using materials such as plaster, clay, metal, paper, wax, and plastic, students create portfolio quality works. Students at this level produce works for their portfolio that demonstrate a sincere desire to

explore a variety of ideas and problems. They create realistic and abstract sculptures utilizing subtractive and additive processes of carving, modeling, construction, and assembling. 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.

Advanced 3D Art

Grades 10-12

2 Semesters

2 Credits

The nature of this course allows for successive semesters of instruction at an advanced level.

Prerequisite: Ceramics and Sculpture

A series of advanced classes for the talented and interested, self-motivated student that uses various media. Previous experience will be built upon and all media and techniques are explored. Students will continue to increase their understanding and appreciation of art through responding to and making advanced three dimensional art pieces. Student's individual ability is considered in the evaluation of progress. This course may be repeated.

Fiber Art/Adv. Fibers

Grades 9-12

2 Semesters each class

2 Credits each class

The nature of this course allows for successive semesters of instruction at an advanced level.

Prerequisite: None

Description: A class exploring fiber based materials. Activities include paper-making, book-making, basketry, loom weaving, hemp jewelry, and others. This class focuses on using authentic and original processes, by covering the art form's historical importance and its current day uses. This class is for interested and self-motivated students. Student's individual ability is considered in the evaluation of progress. This course may be repeated and in that case, will be geared for the individual student's interest.

Beginning Theater Arts

Grades 9-12

Lab 1 Credit

Prerequisite: Make application to director.

Description: This course will include development of skills in expressing thoughts, feelings, moods, and characters; in applying language, voice, gestures, and facial expression and body movement to characterization. Instruction will introduce students to theatre warm-up activities for body, and voice and assist them in preparing a role for an actual production. Critical reading skills will be enhanced by working with a variety of scenes. As well as developing personal performance skills, an appreciation of a broad range of forms of drama will be enhanced. This course will not meet during the regular school schedule; it will be associated with the preparation and public performance of one or more plays. It will require a minimum of seventy-five hours of work on the current production as well as assignments relating to the production. Credit will be awarded on a pass/fail basis.

Only one credit for theatre arts may be earned in any one year.

Technical Theater

Grades 9-12

Lab 1 Credit

Prerequisite: Make application to director.

Description: This course will allow the student an opportunity to combine the theories of design and stagecraft with the construction and operation of the various elements of technical theatre. They will work with scenery, lighting, sound, properties, costumes or make-up, as well as practice theatre safety. Career opportunities in the arts will be presented. Students will continue to study script analysis, and evaluate scripts and live theatre performances. This course will not meet during the regular school schedule; it will be associated with the preparation and public performance of one or more plays, It will require a minimum of seventy-five hours of work on the current production as well as assignments relating to the production. Credit will be awarded on a pass/fail basis. This class may be taken more than once by concentrating on a different technical area than previously studied. Only one credit for theatre arts may be earned in any one year.

Theatre Production

Grades 10-12

Lab 1 Credit

Prerequisite: Successful completion of Beginning Theatre Arts and/or Technical Theatre and application to director.

Description: This course allows the student to explore, develop, and synthesize all elements of theatre. Practical hands-on experiences in acting and/or stagecraft are provided through the preparation and public performance of one or more plays. This course supplements the Beginning Theatre Arts and Technical Theatre courses. This course will not meet during the regular school schedule; it will be associated with the preparation and public performance of one or more plays. It will require a minimum of seventy-five hours of work on the current productions as well as assignments relating to the production. Credit will be awarded on a pass/fail basis. This class may be taken more than once by concentrating on different areas than previously studied. Only one credit for theatre arts may be earned in any one year.

MUSIC DEPARTMENT

Beginning Concert Band-Not offered

Grades 9-12

1 semester

1 credit

The nature of this course allows for successive semesters of instruction at a beginning level.

Prerequisite: None.

Description: A performance based ensemble consisting of individuals who desire to become members of the band program and have had no prior experience on a wind or percussion instrument. This ensemble is also open to experienced individuals who desire to learn a secondary instrument. Instruction is designed to enable students to connect, examine, imagine, define, extend, and integrate music study into other subject areas. This class will provide instruction in creating, performing, listening to, and analyzing, in addition to focusing on specific literature being studied. Attendance is required at all school performances, events, and rehearsals.

Advanced Concert Band

Grades 9-12

2 semesters

2 credits

The nature of this course allows for successive semesters of instruction at an advanced level.

Prerequisite: Proficiency on a wind or percussion instrument

Description: A performance based organization consisting of a marching band, pep band, and a concert band. This class is open to individuals with prior experience and proficiency on a wind or percussion instrument. Instruction is designed to enable students to connect, examine, imagine, define, extend, and integrate music study into other subject areas. This class will provide instruction in creating, performing, listening to, and analyzing, in addition to focusing on specific literature being studied. Students are encouraged to participate in solo and ensemble study to further develop elements of musicianship including tone production, technical skills, intonation, sight-reading, and aural skills. Attendance is required at all school performances, events, camps, and rehearsals, including those in the summer months. Activities include football and basketball game performances, school concerts, music festivals, and I.S.S.M.A. organizational contests.

Beginning/Advance Chorus

Grades 9-12

2 Semesters

2 Credits

Description: Chorus is a performance group which studies 3 and 4-part literature in a wide variety of styles and appropriate difficulty levels, and from a variety of historical periods. This class may consist of 1) Mixed chorus or 2) Female chorus. Instruction is designed to enable students to connect, examine, imagine, define, try, extend, refine, and integrate music study into other subject areas. This class will provide instruction in creating, performing, conducting, listening to and analyzing, in addition to focusing on the specific literature being studied. Students will be expected to participate in learning and performing these varied pieces in school concerts and ceremonies, community performances, district choral festival, organization contest, and other selected performances outside of the school day, that support and extend the classroom learning.

Applied Music

Grades 9-12

1 Semester

1 Credit

Can take successive semesters at an advanced level

Prerequisite: For serious music students only

Description: An introduction to the guitar, which will begin with instruction on playing position, basic chords, scales, notes, and basic music notation. The course will continue with instruction on more complicated chords, strumming & picking patterns, and single line melody playing. Ensemble playing will be encouraged. More accomplished students will have the opportunity to perform at school music programs. Used acoustic guitars will be furnished.

Music Theory and Composition

Grades 9-12

1 Semester

1 Credit

Prerequisite: Students should be planning on a college music major or minor

Description: A study of written music, which will begin with a study of basic music notation (notes, lines, spaces, symbols), and will conclude with the study of key signatures, chords and their variations and use in musical compositions. A final project of a transposition or composition is required to complete the second term of study. May be taken as an independent study course. (workbooks one, two and three must be completed for one credit, workbooks four, five, six and an applied project must be completed for the second credit.)

Music History and Appreciation

Grades 9-12

1 Semester

1 Credit

Prerequisite: None

Description: The study of music as it evolved in relation to world events of the same time periods. Included in this study will be an introduction to the music of various world cultures, music fundamentals, listening skills, and a study of styles and characteristics from antiquity to the present time. The study of famous composers and their compositions will be an integral part of this course. This may be taken as an independent study course.

PHYSICAL EDUCATION **AND HEALTH**

Health & Wellness

Grade 10

1 Semester

1 Credit

Prerequisite: None

Description: A one-semester course **required** for graduation. This course provides the basis to help students adopt and maintain healthy behaviors. Health education should contribute directly to a student's ability to successfully practice behaviors that protect and promote health and avoid or reduce health risks. Through a variety of instructional strategies, students practice the development of functional health information; determine personal values that support health behaviors; develop group norms that value a healthy lifestyle; develop the essential skills necessary to adopt, practice, and maintain health-enhancing behaviors. Priority areas include: promoting personal health and wellness, physical activity, healthy eating, promoting safety and preventing unintentional injury and violence, promoting mental and emotional health, a tobacco free lifestyle and an alcohol-and other drug-free lifestyle and promoting human development and family health.

Fulfills the Health & Wellness requirement for the General, Core 40, AHD, and Tech Honors Diplomas

Physical Education I

Grade 9

1 Semester

1 Credit

A one semester course required for graduation

Prerequisite: None

Description: The goal of a physically educated student is to maintain appropriate levels of cardio-respiratory endurance, muscular strength and endurance, flexibility, and body composition necessary for a healthy and productive life. Through a variety of instructional strategies, students practice skills that

demonstrate: competency in motor skills and movement patterns needed to perform a variety of physical activities; understanding of movement concepts, principles, strategies, and tactics as they apply to the learning and performance of physical activities; regular participation in physical activity to achieve and maintain a health-enhancing level of physical fitness; responsible personal and social behavior that respects self and others in a physical activity setting.

Physical Education II

Grades 10-12

1 Semester

1 Credit

A one semester course required for graduation

Prerequisite: Physical Education I

Description: The goal of a physically educated student is to maintain appropriate levels of cardio-respiratory endurance, muscular strength and endurance, flexibility, and body composition necessary for a healthy and productive life. Through a variety of instructional strategies, students practice skills that demonstrate: competency in motor skills and movement patterns needed to perform a variety of physical activities; understanding of movement concepts, principles, strategies, and tactics as they apply to the learning and performance of physical activities; regular participation in physical activity to achieve and maintain a health-enhancing level of physical fitness; responsible personal and social behavior that respects self and others in a physical activity setting.

Elective Physical Education

Grades 11-12

2 Semesters

2 Credits

Prerequisite: Completion of Secondary PE I and II and consent of instructor required. May be repeated for credit with permission.

Description: Elective PE promotes lifetime sport and recreational activities and/or provides an in-depth opportunity to study specific areas. It includes the study of physical development and concepts and principles of sport and exercise, as well as, opportunities to develop or refine skills and attitudes that promote lifelong fitness. Students have the opportunity to design and develop an appropriate personal fitness program that enables them to achieve a desired level of fitness.

TECHNOLOGY EDUCATION

Intro to Manufacturing

Grades 9-10

2 Semesters

2 Credits

Prerequisite: None

Description: A course that specializes in how people use modern manufacturing systems with an introduction to manufacturing technology and its relationship to society, individuals, and the

environment. An understanding of manufacturing provides a background toward developing engineering and technological literacy. This understanding is developed through the study of two major technologies, material processing and management technology, used by all manufacturing enterprises. Students will apply the skills and knowledge of using modern manufacturing processes.

Introduction to Engineering Design

Grades 10-12

Dual Credit-Ivy Tech

2 Semesters

2 Credits

Prerequisite: None

Description: An introductory course which develops student problem solving skills using the design process. Students document their progress of solutions as they move through the design process. Students develop solutions using elements of design and manufacturability concepts. They develop hand sketches using 2D and 3D drawing techniques. Computer Aided Design (CAD).

Civil Engineering/Architecture

Grades 10-12

2 Semesters

2 Credits

Civil Engineering and Architecture introduces students to the fundamental design and development aspects of civil engineering and architectural planning activities. Application and design principles will be used in conjunction with mathematical and scientific knowledge. Computer software programs should allow students opportunities to design, simulate, and evaluate the construction of buildings and communities. During the planning and design phases, instructional emphasis should be placed on related transportation, water resource, and environmental issues. Activities should include the preparation of cost estimates as well as a review of regulatory procedures that would affect the project design

Digital Electronics/DC Ivy Tech

Grades 10-12

2 Semesters

2 Credits

Prerequisite: None

Description: A course in applied logic that encompasses the application of electronic circuits and devices. Computer simulation software is used to design and test digital circuitry prior to the actual construction of circuits and devices.

Principles of Engineering/DC Ivy Tech

Grades 10-12

2 Semesters

2 Credits

Prerequisite: None

Description: A course that helps students understand the field of engineering/engineering technology. Exploring various technology systems and manufacturing processes help students learn how engineers and technicians use math, science and technology in an engineering problem solving process to benefit people. The course also includes concerns about social and political consequences of technological change.

Computer Integrated Manufacturing

Grades 10-12

Dual Credit-Ivy Tech

2 Semesters

2 Credits

Prerequisite: None

Description: A course that applies principles of robotics and automation. The course builds on computer solid modeling skills developed in Introduction to Engineering Design, and Design and Drawing for Production. Students use CNC equipment to produce actual models of their three-dimensional designs. Fundamental concepts of robotics used in automated manufacturing and design analysis are included.

Engineering Design and Development

Grades 10-12

2 Semesters

2 Credits

Prerequisite: None

Description: An engineering research course, in which students work in teams to research, design and construct a solution to an open-ended engineering problem. Students apply principles developed in the four preceding courses and are guided by a community mentor. They must present progress reports, submit a final written report and defend their solutions to a panel of outside reviewers at the end of the school year.

Business, Marketing & Info Tech

Computer Tech Support

Grades 9-12

2 semesters maximum

6 credits maximum

Description: Computer Tech Support allows students to explore how computers work. Students learn the functionality of hardware and software components as well as suggested best practices in maintenance and safety issues. Through hands on activities and labs, students learn how to assemble and configure a computer, install operating systems and software, and troubleshoot hardware and software problems.

Introduction to Computer Science

Grades 9-12

2 Semesters

2 Credit

Description: Intro 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 will be a focus on the areas of computer programming, gaming/mobile development, and artificial intelligence/robotics.

Computer Tech Support/Helpdesk

Grades 10-12

4 semesters maximum

4 credits maximum

Prerequisite: Computer Tech Support

Description: Computer Tech Support allows students to explore how computers work. Students learn the functionality of hardware and software components as well as suggested best practices in maintenance and safety issues. Through hands on activities and labs, students learn how to assemble and configure a computer, install operating systems and software, and troubleshoot hardware and software problems.

Students will be required to be available during this class to troubleshoot student and staff computers. They will be required to keep accurate logs of their steps involved in the job. Students should have troubleshooting knowledge and have good attendance and academic standing.

Networking I

Grades 9-12

2 Semesters maximum

6 Credits maximum

Description: Networking Fundamentals introduces students to concepts of local and wide area networks, home networking, networking standards using the IEEE/OSI Model, network protocols, transmission media and network architecture/topologies. Security and data integrity will be introduced and emphasized throughout this course. The purpose of this course is to offer students the critical information needed to successfully move into a role as an IT professional supporting networked computers. Concepts covered will include TCP/IP client administration, planning a network topology, configuring the TCP/IP protocol, managing network clients, configuring routers and hubs as well as creating a wireless LAN.

Counts as a Directed Elective or Elective for the General, Core 40, AHD, Tech Honors Diplomas

Networking II Infrastructure

Grades 9-12

2 semesters maximum

6 credits maximum

Description: Infrastructure of the Internet focuses on learning the fundamentals of networking, routing, switching and related protocols. In this course, students learn both practical and conceptual skills that build the foundation for understanding basic networking, routing and switching. Students are introduced to the two major models used to plan and implement networks: OSI and TCP/IP. The OSI and TCP/IP functions and services are examined in detail. Students will learn how a router addresses remote networks and determines the best path to those networks, employing static and dynamic routing techniques.

Networking II Servers

Grades 9-12

2 Semesters maximum

6 Credits maximum

Description: Servers and Security focuses on the software skills needed to manage a network. Students will learn and practice the skills necessary to perform in the role of a network administrator. They will be able to accomplish fundamental network management tasks on a server such as set up of computer network services, create user and appropriate login scripts, develop groups, set the server remotely, set up security, backup/restore the server and setup/maintain clients.

Computer Science I

Grades 10-12

2 Semesters maximum

6 Credits maximum

Description: Introduces the structured techniques necessary for efficient solution of business-related computer programming logic problems and coding solutions into a high-level language. The fundamental concepts of programming are provided through explanations and effects of commands and hands-on utilization of lab equipment to produce correct and accurate outputs. Topics include flowcharting, pseudo coding, and hierarchy charts as a means to solving problems.

Computer Science II Programming

Grades 11-12

6 Credits Maximum

Recommended Pre-requisite: Computer Science I

Programming explores and builds skills in programming and a basic understanding of the fundamentals of procedural program development using structured, modular concepts. Coursework emphasizes logical program design involving user-defined functions and standard structure elements. Discussions will include the role of data types, variables, structures, addressable memory locations, arrays and pointers and data file methods.

Computer Science II Informatics

Grade 12

6 credits maximum

Pre-Requisite: Computer Science I

Description: Introduces the student to terminology, concepts, theory, and fundamental skills used to implement information systems and functions in a wide variety of applications from small businesses to large enterprise corporations. Topics include the history and trends in computing, operating systems, security, cloud implementations and other concepts associated with applying the principles of good information management to the organization.

Agricultural Education

Introduction

Agricultural Education is an active part of the curriculum for many high schools in Indiana. This program area combines the home, the school, and the community as the means of education in agriculture. The courses provide students with a solid foundation of academic knowledge and ample opportunities to apply this knowledge through classroom activities, laboratory experiments and project applications, supervised agricultural experiences, and the FFA.

The vision and mission of Agricultural Education is: that all people value and understand the vital role of agriculture, food, fiber, and natural resource systems in advancing personal and global well-being; and that students are prepared for successful careers and a lifetime of informed choices in agriculture.

The goals for Agricultural Science and Business students focus on providing learning experiences that will allow them to:

- Demonstrate desirable work ethics and work habits.
- Apply the basic agricultural competencies and the basic background knowledge in agriculture and related occupations.
- Analyze entrepreneurial, business, and management skills needed by students preparing to enter agriculture and related occupations.
- Expand leadership and participatory skills necessary for the development of productive and contributing citizens in our democratic society.
- Gain effective social and interpersonal communication skills. Be aware of career opportunities in agriculture and set career objectives.

- Acquire job-seeking, employability, and job-retention skills.
- Advance in a career through a program of continuing education and life-long learning.
- Apply the basic learning skills in reading, writing, and thinking, mathematics, communicating, listening, and studying.
- Recognize the interaction of agriculture with governments and economic systems at the local, state, national, and international levels.
- Recognize how new technologies impact agriculture and how agriculture impacts the environment.

It is important to understand and reaffirm that career-technical experiences do not preclude students from going on to higher education; in fact participation actually enhances the opportunity. A growing number of students are combining both college preparation and work-place experiences in their high school preparation. Agricultural Science and Business and the FFA programs have a long history of successfully preparing students for entry level careers and further education and training in the science, business and technology of agriculture. The programs combine classroom instruction and hands-on career focused learning to develop students' potential for premier leadership, personal growth, and career success.

FFA

The FFA is the career and technical education student organization that is an integral part of the instruction and operation of a total agricultural education program. As an intra-curricular organization and essential component of the total program, the local agricultural education teacher(s) serve as the FFA chapter advisors. The many activities of the FFA parallel the methodology of the instructional program and are directly related to the occupational goals and objectives. As an integral part of the instructional program, district and state level FFA activities provide students opportunities to demonstrate their proficiency in the knowledge, skills, and attitudes they have acquired through the agricultural science and agricultural business total program. Agricultural education students demonstrating a high degree of competence in state level FFA activities are highly encouraged to represent their local communities, districts, and state by participating in national FFA activities.

Instructional activities of the FFA require participation of the agricultural science and agriculture business education students as an integral part of an agricultural education course of instruction and, therefore, may be considered an appropriate use and amount of the allotted instructional time.

Intro to Agriculture, Food & Natural Resources

Grades 9-12

2 semesters

2credits

Prerequisite: None

- 1 credit per semester, maximum of 2 semesters
- Counts as a directed elective or Elective for the General, Core 40, Academic Honors, and Technical Honors diplomas

Description: Introduction to Agriculture, Food and Natural Resources is a two semester course that is highly recommended as a prerequisite and foundation for all other agricultural classes. The nature of this course is to provide students with an introduction to the fundamentals of agricultural science and business. Topics to be covered include: animal science, plant and soil science, food science, horticultural science, agricultural business management, landscape management, natural resources, agricultural power, structure and technology, leadership development, supervised agricultural experience and career opportunities in the area of agriculture, food and natural resources.

Animal Science

Grades 10-12

2 Semesters

2 Credits

Prerequisite: None

- This course may fulfill up to two credits of the minimum requirement for graduation.
- Animal Science may be offered as a small animal/large animal course and or include an advanced, local content specific application such as aquaculture.
- A **Core 40 directed elective** as part of a technical career area.
- This course qualifies as an **Academic Honors Diploma elective**.
- Standards and learning activities defined.
- This course is included as a component of the Agriculture, Food and Natural Resources career cluster and may also be included as a component of the Science, Engineering & Information Technology; Personal & Commercial Services; Business, Management & Finance; Marketing, Sales & Promotion; and Health Services career clusters.

Description: This course is a yearlong program that 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. Areas that the students study may be applied to both large and small animals. Topics to be addressed include: anatomy and physiology, genetics, reproduction and biotechnology, nutrition, aquaculture, careers in animal science, animal health, meeting environmental requirements of animals, and management practices for the care and maintenance of animals.

Horticultural Science I and II

Grades 10-12

Dual Credit-Ivy Tech

2 Semesters each class

2 Credits each class

Prerequisite: Fundamentals of Agricultural Science and Business or by permission of the teacher

- This course can be offered for a second full year at an advanced level and may also be offered in a two or three hour block for four semesters with a maximum of twelve credit hours. The student must develop a plan of study approved by the teacher. Landscape Design is a typical curriculum offered at the advanced level.
- This course may fulfill up to two credits of the minimum requirement for graduation.
- A **Core 40 directed elective** as part of a technical career area.
- This course qualifies as an **Academic Honors Diploma elective**.
- Standards and learning activities defined.
- This course is included as a component of the Agriculture, Food and Natural Resources career cluster and may also be included as a component of the Business, Management & Finance; Marketing, Sales & Promotion; and Transportation, Distribution & Logistics; Arts, A/V Technology & Communications; Science, Engineering & Information Technology; Social & Recreation Services career clusters.

Description: Horticultural Science is a yearlong course designed to give students a background in the field of horticulture and its many career opportunities. It addresses the biology and technology involved in the production, processing, and marketing of horticultural plants and products. Topics covered include: reproduction and propagation of plants, plant growth, growth media, hydroponics, floriculture and floral design, management practices for field and greenhouse production, interior plantscapes, marketing concepts, production of herbaceous, woody, and nursery stock, fruit, nut, and vegetable production, integrated pest management and employability skills. Students participate in a variety of activities including extensive laboratory work usually in a school greenhouse.

Landscape Management I and II

Grades 10-12

2 Semesters each class

2 Credits each class

Recommended Prerequisite: Intro to Ag., Food & Natural Resources

Description: Landscape Management is a two semester course that provides the student with an overview of the many career opportunities in the diverse field of landscape management. Students are introduced to the procedures used in the planning and design of a landscape using current technology practices, the principles and procedures of landscape construction, the determination of maintenance schedules, communications and management skills necessary in landscape operations.

Plant and Soil Science

Grades 9-12

2 Semesters

2 Credits

Recommended Prerequisite: Intro to Ag, Food and Natural Resources

- Fulfills a Life Science or Physical Science requirement for the *general diploma only* or counts as a Directed Elective or Elective for the General, Core 40, AHD or Tech Honor Diplomas.

Description: Plant and Soil Science is a two semester course that provides students with opportunities to participate in a variety of activities which includes laboratory work. The following topics are found in this course: plant taxonomy, components and their functions; plant growth, reproduction and propagation; photosynthesis and respiration; environmental factors effecting plant growth, management of plant diseases and pests; biotechnology; the basic components and types of soil; calculation of fertilizer application rates and procedures for application; soil tillage and conservation; irrigation and drainage; land measurement, cropping systems; and harvesting. Leadership development, supervised agricultural experience and career exploration opportunities in the field of plant and soil science are also included.

Agribusiness Management Dual Credit-Ivy Tech

Grades 11-12

2 Semesters

2 Credits

Prerequisite: None

- A Core 40 directed elective as part of a technical career area.
- This course qualifies as an Academic Honors Diploma elective.
- Standards and learning activities defined.
- This course is included as a component of the Agriculture, Food and Natural Resources career cluster and may also be included as a component of the Business, Management, and Finance; Manufacturing & Processing; Marketing, Sales & Promotion; Personal & Commercial Services; Science, Engineering & Information Technology; Social & Recreation Services; and Transportation, Distribution & Logistics career clusters.

Description: Agribusiness Management is a yearlong course that presents the concepts necessary for managing an agriculture-related business from a local and global perspective. Concepts covered in the course include: exploring careers in agribusiness, global visioning, applying E-commerce, risk management, understanding business management and structures, entrepreneurship, the planning, organizing, financing, and operation of an agribusiness, economic principles, credit, computerized record keeping, budgeting, fundamentals of cash flow, federal, state, property and sales tax, insurance, cooperatives, purchasing, the utilization of information technology in agribusiness, marketing agricultural products, developing a marketing plan, advertising and selling products and services, understanding consumers and buying trends, agricultural law applications and employability skills. Emphasis is also

placed on Commodity Marketing and a 6 week project will allow students to see real life examples of trading a commodity. A trip to the Chicago Board of Trade and the Chicago Mercantile Exchange will allow students to see first hand how commodities are traded.

Agricultural Power, Structure & Technology I/II/III

Grades 9-12

Dual Credit-Ivy Tech

2 Semesters per class

2 Credits per class

6 Semesters maximum

Recommended Prerequisite: Intro to Ag, Food & Natural Resources

Description: Agricultural Power, Structure & Technology is a two semester, lab intensive course in which students develop an understanding of the basic principles of selection, operation, maintenance and management of agricultural equipment in concert while incorporating technology. Topics covered include: safety, electricity, plumbing, concrete, carpentry, metal technology, engines, emerging technologies, leadership development, supervised agricultural experience and career opportunities in the area of agricultural power, structure and technology.

Supervised Agricultural Experience (SAE)

Grades 10-12

Prerequisite: None

- A maximum of eight credits can be earned in this course when offered as a one hour course/eight semesters, some of which can be earned during summer sessions. Curriculum content and competencies should not be duplicated when multiple credits are being earned.
- A Core 40 directed elective as part of a technical career area.
- This course qualifies as an Academic Honors Diploma elective.
- Standards and learning activities defined.
- This course is included as a component of the Agriculture, Food and Natural Resources career cluster and may also be included as a component of the Arts, A/V Technology & Communications; Building & Construction; Education & Training; Law, Public Safety & Security; Manufacturing & Processing; Marketing, Sales & Promotion; Mechanical Repair & Precision Crafts; Personal & Commercial Services; Science, Engineering & Information Technology; Social & Recreation Services; Transportation, Distribution & Logistics; Business, Management and Finances; and Health Services career clusters. *Description:* Supervised Agricultural Experience (SAE) is designed to provide students with opportunities to gain experience in the agriculture field(s) in which they are interested. Students should experience and apply what is learned in the classroom, laboratory, and training site to real-life situations. Students work closely with their agricultural science and business teacher(s), parents, and/or employers to get the most out of their SAE program. This course should be offered each semester as well as during the summer session. SAE may be offered as a Cooperative Education Program. Curriculum content and competencies should be varied so that school year and summer session experiences are not duplicated.

Advanced Life Science, Animals (L)

Grades 11-12

2 Semesters

2 Credits

Prerequisite: Biology I and Chemistry I

Fulfills a Core 40 Science requirement for the General, Core 40, Core 40AHD, and Core 40THD OR counts as an elective or directed elective for any diploma.

ALS, Animals is a two semester course that provides students with opportunities to participate in a variety of activities including laboratory work. Students investigate concepts that enable them to understand animal life and animal science as it pertains to agriculture. Through instruction, including laboratory, fieldwork, leadership development, supervised agricultural experience and the exploration of career opportunities, they will recognize concepts associated with animal taxonomy, life at the cellular level, organ systems, genetics, evolution, ecology and, historical and current issues in animal agriculture in the area of advanced life science in animals.

Advanced Life Science Food (ALS Foods)

Grades 11-12

2 Semesters

2 Credits

Prerequisite: Chemistry 1, can take concurrently

Fulfills a Core 40 Science requirement for the General, Core 40, Core 40AHD, and Core 40THD OR counts as an elective or directed elective for any diploma.

Description: ALS Foods is a two semester course that provides students with opportunities to participate in a variety of activities which includes laboratory work, leadership development, supervised agricultural experience and exploration of career opportunities. 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 product development, food processing, safety and storage. Students completing this course will be able to apply the principles of scientific inquiry to solve problems related to biology, physics and chemistry the context of highly advanced agricultural applications of food.

Food Science

Grades 9-12

2 Semesters

2 Credits

Recommended Prerequisite: Intro to Ag, Food and Natural Resources

Fulfills a Life Science or Physical Science requirement for the General Diploma only or counts as a Directed elective or elective for the General, Core 40, Core 40AHD, Core 40THD.

Description: Provides students with an overview of food science and its importance. Introduction to principles of food processing, food chemistry and physics, nutrition, food microbiology, preservation, packaging and labeling, issues and careers in the food science industry help students understand the role that food science plays in securing a safe, nutritious and adequate food supply.

Advanced Life Science Plant & Soils-Not offered

Grades 11-12

2 Semesters

2 Credits

Recommended Prerequisite: Intro to Ag, Food and Natural Resources, Plant & Soil Science, Chemistry and Biology

Fulfills a Core 40 Science requirement for the General, Core 40, Core 40AHD, and Core 40THD OR counts as an elective or directed elective for any diploma.

Description: ALS Plants and Soils is a two semester course that provides students with opportunities to participate in a variety of activities which includes laboratory work. Students study concepts, principles and theories associated with plants and soils. Students recognize how plants are classified, grown, function and reproduce. Students explore plant genetics and the use of plants by humans. They examine plant evolution and the role of plants in ecology. Students investigate, through laboratory and fieldwork, how plants functions and the influence of soil in plant life.

A core 40, AHD, THD course

Trade & Industrial Education

Welding Technology I

Grades 11-12

Dual Credit-Ivy Tech

2 Semesters

2 Credits

2 semester maximum

Prerequisite: None

Description: Includes classroom and laboratory experiences that develop a variety of skills in oxy-fuel cutting and Shielded Metal Arc welding. This course is designed for individuals who intend to make a career as a Welder, Technician, Sales, Designer, Researcher or Engineer. Emphasis is placed on safety at all times. OSHA standards and guide lines 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 college.

Welding Technology II

Grade 12

Dual Credit-Ivy Tech

2 Semesters

2 Credits

2 semester maximum

Prerequisite: Welding Technology I

Description: Builds on the Gas Metal Arc welding, Flux Cored Arc Welding, Gas Tungsten Arc welding, Plasma Cutting and Carbon Arc skills covered in Welding Technology I. Emphasis is placed on safety at all times. OSHA standards and guide lines 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 college and career success.

FAMILY & CONSUMER SCIENCE

Preparing for College & Careers

Grade 9

1 Semester

1 Credit

A required 9th grade course

Prerequisite: None

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

Early Childhood Education I

Grades 9-12

2 Semesters

2 Credits

Description: Early Childhood prepares students for employment in early childhood education and related careers that involve working with children from birth to 8 years (3rd grade) and provides the foundations for study in higher education that leads to early childhood education and other child-related careers. A project based approach that utilizes higher order thinking, communication, leadership, and management processes is recommended in order to integrate the study of suggested topics. Major course topics include: career paths in early childhood education; promoting child development and learning; building family and community relationships; observing, documenting, and assessing to support young children and families; using developmentally effective approaches; using content knowledge to build meaningful curriculum, and becoming an early childhood education professional. The course provides an overview of the history, theory, and foundations of early childhood education as well as exposure to types of programs, curricula, and services available to young children. Students examine basic principles of child development, importance of family, licensing, and elements of quality care of young children. The course addresses planning and guiding developmentally appropriate activities for young children in various childcare settings; developmentally appropriate practices of guidance and discipline; application of basic health, safety, and nutrition principles when working with children; overview of management and operation of licensed childcare facilities or educational settings; child care regulations and licensing requirements; and employability skills. Intensive experiences in one or more early childhood settings, resumes, and career portfolios are required components. A standards-based plan for each student guides the laboratory/field experiences. Students are monitored in their laboratory/field experiences may be either school-based or "on-the-job" in community-based early childhood education centers or in a combination of the two.

Early Childhood Education II

Grades 10-12

2 Semesters

2 Credits

Prerequisites: Successful completion of Early Childhood I

Description: Early Childhood prepares students for employment in early childhood education and related careers that involve working with children from birth to 8 years (3rd grade) and provides the foundations for study in higher education that leads to early childhood education and other child-related careers. ECE II is a sequential course that builds on the foundational knowledge and skills of ECE I. In ECE II students further refine, develop, and document the knowledge, skills, attitudes, and behaviors gained in the foundational course. Major topics of ECE II include: overview of the Child Development Associate credential, safe and healthy learning environment, physical and intellectual competence, social and

emotional development, relationships with families, program management, and professionalism. A standards-based plan for each student guides the early childhood education experiences. Students are monitored in these experiences by the Early Childhood Education II teacher.

Education Professions I

Grades 11-12

2 Semesters

2 credits

Prerequisites: Child Development I and II

Description: Education Professions I prepares students for employment in education and related careers and provides the foundation for study in higher education in these career areas. An active learning approach that utilizes higher order thinking, communication, leadership, and management processes is recommended in order to integrate suggested topics into the study of education and related careers. The course of study includes, but is not limited to: the teaching profession, the learner and the learning process, planning instruction, learning environment, and instructional and assessment strategies. Field experiences in one or more classroom settings, resumes, and career portfolios are required components. A standard-based plan guides the students' field experiences. Students are monitored in their field experiences by the Education Professions teacher. Articulation with postsecondary programs is encouraged.

Education Professions II

Grade 12

2 Semesters

2 Credits

Prerequisite: Education Professions I

Description: Education Professions II builds on the content knowledge and skills of Education Professions I and prepares students for employment in education and related careers and provides the foundation for study in higher education in the career areas. An active learning approach that utilizes higher order thinking, communication, leadership, and management processes is recommended in order to integrate suggested topics into the study of education and related careers. The course of study includes, but is not limited to: the teaching profession, the learner and learner process, planning instruction, learning environment, and instructional assessment strategies. Field experiences in one or more classroom settings, resumes, and career portfolios are required components. A standard-based plan guides the students' field experiences. Students are monitored in their field experiences by the Education Professions teacher. Articulation with postsecondary programs is encouraged.

Entrepreneurship and New Ventures Capstone

Grades 11-12

2 Semesters

2 Credits

Recommended Prerequisite: Introduction to Business

Description: Entrepreneurship and New Ventures introduces entrepreneurship, and develop skills and tools critical for starting and succeeding in a new venture. The entrepreneurial process of opportunity recognition, innovation, value proposition, competitive advantage, venture concept, feasibility analysis, and "go to" market strategies will be explored through mini case studies of successful and unsuccessful entrepreneurial start-ups. Additionally, topics of government and legal restrictions, intellectual property, franchising location, basic business accounting, raising startup funding, sales and revenue forecasting and business plan development will be presented through extensive use of word processing, spreadsheet and presentation software.

Health Science Education

Athletic Training

Grades 11-12

2 Semesters

2 Credits

Prerequisite: None

Recommended Prerequisite: Biology, Chemistry, Anatomy and Physiology

Description: Introduction to Physical Therapy introduces students to careers in physical therapy, athletic training and sports medicine. Due to the multi-disciplinary/cross training trend in health care delivery, this course will offer an overview of other allied health careers interrelated to physical therapy, such as athletic training and sports medicine. Various instructional strategies and technologies are used to teach students about career opportunities and their associated roles and responsibilities, legal and ethical issues, patient diversity, anatomy and physiology, injury mechanisms, disorders requiring physical therapy, aspects of rehabilitation, safety concerns and patient documentation. This course qualifies as a Directed Elective and Elective for the Core 40, Core 40 with Academic Honors, and Core 40 with Technical Honors Diplomas.

Medical Terminology/DC Ivy Tech

Grades 11-12

2 Semesters

2 Credits

Prerequisite: None

Description: Medical terminology will address basic terminology that is required by allied health professions. Additionally it will provide basic knowledge of anatomy and physiology, pathology, and pharmacology. Symbols, medical abbreviations, Greek, and Latin prefixes, suffixes, word roots and meaning are taught within the context of the body and its systems. Emphasis will be placed on developing a medical vocabulary including, meaning, spelling, and pronunciation that is necessary for interpreting medical records and communications. This course will provide a strong foundation for students interested in medical and other allied health careers.

It is recommended for juniors and seniors who have an interest in pursuing a post-secondary education in a medical or allied health field.

Work Base Learning

WBLC-Business & Marketing/**Internship**

Grades 11-12

WBLC-Multiple Pathway/**Agriculture**

Grade 12

2 Semesters

2 Credits

Work Base Learning is an instructional strategy that can be implemented as a stand-alone course or a component of any CTE course that prepares students for college and career. This strategy builds student's skills and knowledge in their chosen career path or furthers their study within the area of interest.

Quantitative Reasoning Courses

In November 2011, the State Board of Education passed new graduation requirements that affect incoming freshman in 2012–13.

- For the Core 40, Academic Honors (AHD), and Technical Honors (THD) diplomas, students must take a mathematics course or a quantitative reasoning course each year they are enrolled in high school.
- For the General Diploma, students must earn two credits in a mathematics course or a quantitative reasoning course during their junior or senior year.
- A quantitative reasoning course is a high school course that "advances a student's ability to apply mathematics in real world situations and contexts" and that "deepens a student's understanding of high school mathematics standards."
- The Indiana Department of Education will provide an annual review to determine the high school courses that meet these criteria.
- The tables below provide a list of courses that have been determined to meet the criteria for quantitative reasoning courses for 2013–2014 and 2014–2015.

Advanced Placement

Title/Description	Course Number
Biology, Advanced Placement	3020
Calculus AB, Advanced Placement	2562
Calculus BC, Advanced Placement	2572
Chemistry, Advanced Placement	3060
Computer Science A, Advanced Placement	4570
Environmental Science, Advanced Placement	3012
Macroeconomics, Advanced Placement	1564
Microeconomics, Advanced Placement	1566
Physics B, Advanced Placement	3080
Physics C, Advanced Placement	3088

Statistics, Advanced Placement	2570
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Agriculture

Title/Description	Course Number
Advanced Life Science, Animals	5070
Advanced Life Science, Foods	5072
Agribusiness Management	5002
Landscape Management	5136

Business, Marketing, and Information Technology

Title/Description	Course Number
Accounting	4524
Business Math	4512
Computer Science I	4634
Computer Science II	5236
Computer Science A, Advanced Placement	4570
Computer Science Higher Level, International Baccalaureate	4584
Computer Science Standard Level, International Baccalaureate	4586
Global Economics	4558
Financial Services	5258

Engineering and Technology

TITLE/DESCRIPTION	COURSE NUMBER (PLTW)	COURSE NUMBER (non-PLTW)
Aerospace Engineering	4816	5518
Civil Engineering and Architecture	4820	5650

Computer Integrated Manufacturing	4810	5534
Digital Electronics	4826	5538
Engineering Design and Development	4828	5698
Principles of Engineering	4814	5644

Family and Consumer Sciences

Title/Description	Course Number
Advanced Life Science: Foods	5072

International Baccalaureate

Title/Description	Course Number
Chemistry Higher Level, International Baccalaureate	3070
Chemistry Standard Level, International Baccalaureate	3072
Computer Science Higher Level, International Baccalaureate	4584
Computer Science Standard Level, International Baccalaureate	4586
Economics Higher Level, International Baccalaureate	1580
Economics Standard Level, International Baccalaureate	1582
Further Mathematics Standard Level, International Baccalaureate	2580
Mathematical Studies Standard Level, International Baccalaureate	2586
Mathematics Higher Level, International Baccalaureate	2582
Mathematics Standard Level, International Baccalaureate	2584
Physics Higher Level, International Baccalaureate	3096
Physics Standard Level, International Baccalaureate	3098

Science

Title/Description	Course Number
Biology, Advanced Placement	3020
Chemistry I	3064

Chemistry II	3066
Chemistry, Advanced Placement	3060
Chemistry Higher Level, International Baccalaureate	3070
Chemistry Standard Level, International Baccalaureate	3072
Environmental Science, Advanced Placement	3012
Integrated Chemistry-Physics	3108
Physics I	3084
Physics II	3086
Physics B, Advanced Placement	3080
Physics C, Advanced Placement	3088
Physics Higher Level, International Baccalaureate	3096
Physics Standard Level, International Baccalaureate	3098

Social Studies

Title/Description	Course Number
Economics	1514
Economics Higher Level, International Baccalaureate	1580
Economics Standard Level, International Baccalaureate	1582
Macroeconomics, Advanced Placement	1564
Microeconomics, Advanced Placement	1566

Trade and Industrial

Title/Description	Course Number
Advanced Manufacturing II	5606
Architectural Drafting and Design II	5652
Construction Technology: Electrical II	4832
Construction Technology: HVAC II	5498
Electronics and Computer Technology II	5694

Mechanical Drafting and Design II	4838
Precision Machining I	5782
Precision Machining II	5784