

Course Description Guide

**Rochester High School
2023-2024**



**Oscar Haughs, Principal
Lauryn Atkinson, Assistant Principal
Stephanie Brown, Counselor
Tara Seuferer, Counselor
Kevin Renie, Athletic Director**

ORDER OF CONTENTS

DIPLOMA TYPES
GRADUATION INFORMATION
AP/DUAL CREDIT COURSES
PATHWAYS
ADVANCED MANUFACTURING
AGRICULTURE
BUSINESS, MANAGEMENT & ADMINISTRATION
CIVIL CONSTRUCTION
DIGITAL DESIGN
EDUCATION
FAMILY AND CONSUMER SCIENCE
FINE ARTS
HEALTH AND PHYSICAL EDUCATION
HEALTH SCIENCES
INFORMATION TECHNOLOGY
LANGUAGE ARTS
MATHEMATICS
MULTIDISCIPLINARY
RADIO TV/FILM
RESPONSE TO INSTRUCTION
SCIENCE
SOCIAL STUDIES
SCIENCE TECHNOLOGY ENGINEERING & MATH
WORLD LANGUAGE
LOGANSPORT CAREER CENTERS
NCAVC CAREER CENTER

Course and Credit Requirements

English/ Language Arts	8 credits Including a balance of literature, composition and speech.
Mathematics	6 credits (in grades 9-12) 2 credits: Algebra I 2 credits: Geometry 2 credits: Algebra II Or complete Integrated Math I, II, III or quantitative reasoning course each year in high school
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 and Technical Education
Physical Education	2 credits
Health and Wellness	1 credit
Electives*	6 credits (College and Career Pathway courses recommended)

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 (6 credits in one language or 4 credits each in two languages).
- Earn 2 Core 40 fine arts credits.
- Earn a grade of a “C” or better in courses that will count toward the diploma.
- Have a grade point average of a “B” or better.
- Complete one of the following:
 - A. Earn 4 credits in 2 or more AP courses and take corresponding AP exams

Earn 6 verifiable transcribed college credits in dual credit courses from the approved dual credit list.

- B. Earn two of the following:
 1. A minimum of 3 verifiable transcribed college credits from the approved dual credit list,
 2. 2 credits in AP courses and corresponding AP exams,
 3. 2 credits in IB standard level courses and corresponding IB exams.
- C. 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
- D. Earn an ACT composite score of 26 or higher and complete written section
- E. Earn 4 credits in IB courses and take corresponding IB exams.

CORE40 with Technical Honors (minimum 47 credits)

- Complete all requirements for Core 40.
- Earn 6 credits in the college and career preparation courses in a state-approved College & Career Pathway and one of the following:
 1. State approved, industry recognized certification or credential, or
 2. Pathway dual credits from the approved dual credit list resulting in 6 transcribed college credits
- Earn a grade of “C” or better in courses that will count toward the diploma.
- Have a grade point average of a “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. Earn the following minimum score(s) on Compass; Algebra 66, Writing 70, Reading 8

Indiana SAT and the Graduation Pathways



Graduation Requirements

Starting with **grad cohort 2023**:

1. No graduation qualifying exam (GQE), which means no ISTEP+ or ISTEP+ Retest.
2. All students must complete graduation pathway requirements.

Indiana SAT

- *All Juniors*: Must take the SAT in spring for school accountability.
- *Graduation Pathway Requirement 3*: SAT score may be used, but it is **not** a GQE. This requirement may be met with another option.
- *Retests*: Not offered or required by the state.

Graduation Pathway Requirements

Meet **one** requirement in each of these categories:

1 High School Diploma

Core 40

Technical Honors

Academic Honors

General

2 Learn and Demonstrate Employability Skills

Project-Based

Service-Based

Work-Based

3 Postsecondary-Ready Competencies

1. Honors Diploma
2. ACT
3. SAT
4. ASVAB
5. Industry Cert
6. Apprenticeship
7. CTE Concentrator
8. AP/IB/Dual Credit/Cambridge Int./CLEP
9. Locally Created Pathways

Dual Credit

Department	RHS Class Name	College	College #	Dual Credit Class Name	Credits
Agriculture	Principles of Agriculture	Ivy Tech	AGRI 100	Introduction to Agriculture	3
	Animal Science	Ivy Tech	AGRI 103	Animal Science	3
	Horticulture	Ivy Tech	AGRI 116	Survey of Horticulture	3
	Agriculture Power, Structure	Ivy Tech	AGRI 106	Agriculture Mechanization	3
	Agriculture Power, Structure	Ivy Tech	INDT 114	Introductory Welding	3
Education	Principles of Teaching	Ivy Tech	EDUC 101	Introduction to Teaching	3
	Child and Adolescent Development	Ivy Tech	EDUC 121	Child and Adolescent Development	3
	Teaching and Learning	Ivy Tech	EDUC 201	Technology in Education	3
	Education Profession Capstone	Ivy Tech	EDUC 230	The Exceptional Child	3
	Education Profession Capstone	Ivy Tech	EDUC 233	Literacy Development through Children's Lit	3
Language Arts	Adv Composition	IU	W131	Reading, Writing & Inquiry I	3
	Adv Speech	IU	S121	Public Speaking	3
	Literary Interpretation	IU	L202	Literary Interpretation	3
	AP English and Lang Comp				
Mathematics	Calculus AP AB	PFW	MA16500	Analytic Geometry & Calculus I	4
	PreCalculus	PFW	MA15300	College Algebra	3
	Trigonometry	PFW	MA15400	Trigonometry	3
Science	Biology	IU	L100	Humans & the Biological World	5
Social Studies	US History	IU	H 105/106	American History	6
	US Government	IU	POLS-Y103	Introduction to American Politics	3
Technology	Principles Advanced Manufacturing	Ivy Tech	ADMF 101	Key Principles of Manufacturing	3
	Principles of Precision Machining	Ivy Tech	MTTC 101	Introduction to Machining	3
	Advanced Manufacturing Technology	Ivy Tech	ADMF 102	Technology in Advanced Manufacturing	3
	Advanced Manufacturing Technology	Ivy Tech	INDT 113	Industrial Electrical I	3
	Civil Engineering & Architecture	Ivy Tech - L	DESN 105	Architectural Design	3
	Intro to Eng Design	Ivy Tech - L	DESN 101	Intro to Design Technology	3
	Principles of Engineering	Ivy Tech - L	DESN 104	Mechanical Graphics	3
General	Ball State University Dual Credit - Online courses				

Pathways

Advanced Manufacturing
Ag Mechanical and Engineering
Agri Science Animals
Biomedical Science
Business
Business Operations and Technology
Civil Construction
Culinary Arts
Digital Design
Early Childhood Education
Education Professions
Engineering
Fine Arts Pathway
Horticulture
Information Technology
Precision Machining
Radio and Television

Other Pathways in our shared programs are located on the back pages of this Course Description Guide

ADVANCED MANUFACTURING

Advanced Manufacturing Industrial Automation and Robotics			
Principles	CTE Concentrator A	CTE Concentrator B	Pathway Capstone
7108- Principles of Adv Mfg	7103- Adv Mfg Technology	7106- Mechatronics Systems	7224- Automation & Robotics

Advanced Manufacturing Precision Machining			
Principles	CTE Concentrator A	CTE Concentrator B	Pathway Capstone
7109- Principles of Precision Machining	7105- Precision Machining Fundamentals	7107- Advanced Precision Machining	7219- Precision Machining Capstone

7108 Principles of Advanced Manufacturing PRIN ADV MAN Principles of Advanced Manufacturing is a course that includes classroom and laboratory experiences in Industrial Technology and Manufacturing Trends. Domains include safety and impact, manufacturing essentials, lean manufacturing, design principles, and careers in advanced manufacturing. Hands-on projects and team activities will allow students to apply learning on the latest industry technologies. Work-based learning experiences and industry partnerships are highly encouraged for an authentic industry experience.

- Recommended Grade(s): 9, 10, 11
- Recommended Prerequisites: Introduction to Advanced Manufacturing
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7103 Advanced Manufacturing Technology ADV MAN TECH Advanced Manufacturing Technology introduces manufacturing processes and practices used in manufacturing environments. The course also covers key electrical principles, including current, voltage, resistance, power, inductance, capacitance, and transformers, along with basic mechanical and fluid power principles. Topics include, types of production, production materials, machining and tooling, manufacturing planning, production control, and product distribution will be covered. Students will be expected to understand the product life cycle from conception through distribution. This course also focuses on technologies used in production processes. Basic power systems, energy transfer systems, machine operation and control will be explored. This course will use lecture, lab, online simulation and programming to prepare students for Certified Production Technician Testing through Manufacturing Skill Standards Council (MSSC).

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Advanced Manufacturing
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7106 Mechatronics Systems MECH SYS Mechatronics Systems covers the basic electrical and mechanical components and functions of a complex mechatronics system. Through a systems approach, students will learn about mechanical components which lead and support the energy through a mechanical system to increase efficiency and to reduce wear and tear. By understanding the complete system, students will learn and apply troubleshooting strategies to identify, localize and (where possible) to correct malfunctions. Preventive

maintenance of mechanical elements and electrical drives as well as safety issues within the system will also be discussed.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Advanced Manufacturing; Advanced Manufacturing Technology
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7224 Industrial Automation and Robotics Capstone AUTO ROB CAP The Automation and Robotics Capstone course focuses on the installation, maintenance, and repair of industrial robots. Students will also learn the basics of pneumatic, electro pneumatic and hydraulic control circuits as well as the basic theory, fundamentals of digital logic, and programming of programmable logic controllers (PLCs) in a complex mechatronic system. Students will learn to identify malfunctioning robots and to apply troubleshooting strategies to identify and localize problems caused by pneumatic and hydraulic control circuits and PLC hardware. Completing the capstone course will provide students the opportunity to earn a postsecondary certificate and will prepare students to take nationally recognized industry certification exams. Hands-on projects and team activities will allow students to apply learning on the latest industry technologies. Extended work-based learning experiences and industry partnerships are highly encouraged for an authentic industry experience.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Advanced Manufacturing; Advanced Manufacturing Technology; Mechatronics Systems
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

7109 Principles of Precision Machining PRIN PREC MACH Principles of Precision Machining will provide students with a basic understanding of the processes used to produce industrial goods. Classroom instruction and labs will focus on shop safety, measurement, layout, blueprint reading, shop math, metallurgy, basic hand tools, milling, turning, grinding, and sawing operations. This course prepares the student for the optional National Institute for Metalworking Skills (NIMS) Measurement, Materials, & Safety certification that may be required for college dual credit.

- Recommended Grade(s): 9, 10, 11
- Recommended Prerequisites: Introduction to Advanced Manufacturing
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7105 Precision Machining Fundamentals MACH FUN Precision Machining Fundamentals will build a foundation in conventional milling and turning. Students will be instructed in the classroom on topics of shop safety, theory, industrial terminology, and calculations. Lab work will consist of the setup and operation of vertical and/or horizontal milling machines and engine lathes. This course prepares the student for the optional National Institute for Metalworking Skills (NIMS) Milling I certification that may be required for college dual credit.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Precision Machining
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Qualifies as a quantitative reasoning course
- It is recommended that Precision Machining program of study be taught in a 2-3 period block of time. VU dual credit requires that Precision Machining Fundamentals and Advanced Precision Machining be completed concurrently

7107 Advanced Precision Machining PREC MACH Advanced Precision Machining will build upon the Turning and Milling processes learned in Precision Machining Fundamentals and will build a foundation in abrasive process machines. Students will be instructed in the classroom on topics of shop safety, theory, industrial terminology, and calculations associated with abrasives. Lab work will consist of the setup and operation of bench grinders and surface grinders. Additionally students will be introduced to Computerized Numeric Controlled (CNC) setup, operations and programming. This course prepares the student for the optional National Institute for Metalworking Skills (NIMS) Grinding I certification that may be required for college dual credit.

- Recommended Grade(s): 10, 11, 12

- Required Prerequisites: Principles of Precision Machining; Precision Machining Fundamentals

- Recommended Prerequisites: none

- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum

- Counts as a directed elective or elective for all diplomas •Qualifies as a quantitative reasoning course

- It is recommended that Precision Machining program of study be taught in a 2-3 period block of time.

- VU dual credit requires that Precision Machining Fundamentals and Advanced Precision Machining be completed concurrently

7219 Precision Machining Capstone PREC MACH CAP Precision Machining Capstone is an in-depth study of skills learned in Precision Machining I, with a stronger focus on CNC setup/operation/programming. Students will be introduced to two axis CNC lathe programming and three axis CNC milling machine programming. Develops the theory of programming in the classroom with applications of the program accomplished on industry-type machines. Studies terminology of coordinates, cutter paths, angle cutting, and linear and circular interpolation. Classroom activities will concentrate on precision set-up and inspection work, as well as machine shop calculations. Students will develop skills in advanced machining and measuring parts involving tighter tolerances and more complex geometry. A continued focus on safety will also be presented.

- Recommended Grade(s): 11, 12

- Required Prerequisites: Principles of Precision Machining; Precision Machining Fundamentals; Advanced Precision Machining

- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum

- Counts as a Directed Elective or Elective for all diplomas

- Qualifies as a quantitative reasoning course

AGRICULTURE

Agriculture, Food and Natural Resources Ag Mechanical and Engineering

Principles	CTE Concentrator A	CTE Concentrator B	Pathway Capstone
7117- Principles of Ag	5088- Ag Power, Structures and Technology	7112- Ag Structures Fabrication and Design	7228- Ag Mechanization and Technology

Agriculture, Food and Natural Resources Agri-Science- Plants or Animals

Principles	CTE Concentrator A	CTE Concentrator B	Pathway Capstone
7117- Principles Of Ag	5008- Animal Science	5102- Food Science	7230- Next Lvl Pos Ag Research

Agriculture, Food and Natural Resources Horticulture

Principles	CTE Concentrator A	CTE Concentrator B	Pathway Capstone
7117- Principles of Ag	5132- Horticultural Science-NLPS	7114- Greenhouse and Soilless Production	7232- Horticulture

5002 Agribusiness Management (AG BUS MGMT) Agribusiness Management provides foundation concepts in agricultural business. It is a two semester course that introduces students to the principles of business organization and management from a local and global perspective, with the utilization of technology. Concepts covered in the course include accounting and record keeping, business planning and management, food and fiber, forms of business, finance, management, sales and marketing, careers, and leadership development. Students will demonstrate principles and techniques for planning, development, application and management of agribusiness systems through a supervised agriculture experience (work based learning) programs.

- Recommended Grade: 11, 12
- Recommended Prerequisites: Introduction to Agriculture, Food and Natural Resources
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as an elective or directed elective for all diplomas.
- Qualifies as a quantitative reasoning course

5056 Introduction to Agriculture, Food, and Natural Resources (INT AGFNR) Introduction to Agriculture, Food and Natural Resources is a two semester course that is highly recommended as a prerequisite to and as a foundation for all other agricultural classes. Through hands-on learning activities, students are encouraged to investigate areas of agriculture. Students are introduced to the following areas of agriculture: animal science, plant and soil science, food science, horticultural science, agricultural business management, natural resources, agriculture power, structure, and technology, careers in agriculture, leadership, and supervised agricultural experience. An activity and project-based approach is used along with team building to enhance the effectiveness of the student learning activities.

- Recommended Grade: 9

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

5136 Landscape Management I (LAND MGMT I) 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 involved with landscape construction, the determination of maintenance schedules, communications and management skills necessary in landscaping operations, and the care and use of equipment utilized by landscapers. Upon completion of the program, students have the opportunity to become Indiana Landscape Industry Certified through a state approved program.

- Recommended Grade: 11, 12
- Recommended Prerequisites: Introduction to Agriculture, Food and Natural Resources
- Credits: 2 semester course, 2 semesters required, 1-3 credit(s) per semester, 6 credits maximum
- Counts as an elective or directed elective for all diplomas
- Qualifies as a quantitative reasoning course

5180 Natural Resources (NAT RSS) Natural Resources is a two semester course that provides students with a background in environmental science and conservation. Course work includes hands-on learning activities that encourage students to investigate areas of environmental concern. Students are introduced to the following areas of natural resources: soils, the water cycle, air quality, outdoor recreation, forestry, minerals, interrelationships 253 Indiana Department of Education 2021-2022 High School Course Titles and Descriptions between humans and natural systems, wetlands, wildlife, safety, careers, leadership, and supervised agricultural experience programs.

- Recommended Grade: 10, 11
- Recommended Prerequisites: Introduction to Agriculture, Food and Natural Resources
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Fulfills a science course requirement for all diplomas
- Counts as a directed elective or elective for all diplomas

5228 Supervised Agricultural Experience (SAE) 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 will experience and apply what is learned in the classroom, laboratory and training site to real-life situations with a standards based plan for learning. Students work closely with their agriculture teacher(s), parents and/or employers to get the most out of their SAE program. This course can be offered each year as well as during the summer session. Curriculum content and competencies need to be varied so that school year and summer session experiences are not duplicative.

- Recommended Grade: 10, 11, 12
- Recommended Prerequisites: Introduction to Agriculture, Food and Natural Resources
- Credits: 1 semester course, 1 credit per semester, 8 credits maximum
- Counts as a directed elective or elective for all diplomas.
- Curriculum content and standards-based

5088 Agriculture Power, Structure, and Technology (AG POW) Agriculture Power, Structure and Technology is a two semester, up to six credits, lab intensive course in which students develop an understanding of basic principles of tool selection, operation, maintenance, and management of agricultural equipment in concert with the utilization of technology. Topics covered include: safety, problem solving/troubleshooting, electricity, plumbing, concrete, carpentry, metal technology, engines, emerging technologies, leadership development, supervised agricultural experience, and career opportunities in the area of agriculture power, structure, and technology.

- Recommended Grade: 10, 11

- Recommended Prerequisites: Introduction to Agriculture, Food and Natural Resources
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

5008 Animal Science (ANML SCI) Animal Science is a two-semester program that provides students with an overview of the animal agriculture industry. Students participate in a large variety of activities and laboratory work including real and simulated animal science experiences and projects. All areas that the students study may be applied to both large and small animals. Topics to be covered in the course include: history and trends in animal agriculture, laws and practices relating to animal agriculture, comparative anatomy and physiology of animals, biosecurity threats and interventions relating to animal and human safety, nutrition, reproduction, careers, leadership, and supervised agricultural experiences relating to animal agriculture.

- Recommended Grade: 10, 11
- Recommended Prerequisites: Introduction to Agriculture, Food and Natural Resources
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Fulfills a science course requirement for all diplomas
- Fulfills a physical science requirement for General Diploma

5102 Food Science (FOOD SCI) Food Science is a two semester course that provides students with an overview of food science and the role it plays in the securing of a safe, nutritious, and adequate food supply. A project-based approach is utilized in this course, along with laboratory, team building, and problem-solving activities to enhance student learning. Students are introduced to the following areas of horticulture science: food processing, food chemistry and physics, nutrition, food microbiology, preservation, packaging and labeling, food commodities, food regulations, issues and careers in the food science industry.

- Recommended Grade: 10, 11
- Recommended Prerequisites: Introduction to Agriculture, Food and Natural Resources
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas.
- Fulfills a Life Science or Physical Science requirement for the General Diploma

5132 Horticultural Science (HORT SCI) Horticulture Science is a two semester course that provides students with a background in the field of horticulture. Coursework includes hands-on activities that encourage students to investigate areas of horticulture as it relates to the biology and technology involved in the production, processing, and marketing of horticultural plants and products. Students are introduced to the following areas of horticulture science: reproduction and propagation of plants, plant growth, growth-media, management practices for field and greenhouse production, marketing concepts, production of plants of local interest, greenhouse management, floral design, and pest management. Students participate in a variety of activities including extensive laboratory work usually in a school greenhouse.

- Recommended Grade: 10, 11, 12
- Recommended Prerequisites: Introduction to Agriculture, Food and Natural Resources
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas.
- Fulfills a Life Science or Physical Science requirement for the General Diploma

7117 Principles of Agriculture PRIN AG Principles of Agriculture is a two semester course that will cover the diversity of the agricultural industry and agribusiness concepts. Students will develop an understanding of the role of agriculture in the United States and globally. Students will explore Agriculture, Food, and Natural Resource (AFNR) systems related to the production of food, fiber and fuel and the associated health, safety and

environmental management systems. Topics covered in the course range from animals, plants, food, natural resources, ag power, structures and technology, and agribusiness. Participation in FFA and Supervised Agricultural Experiences (SAE) will be an integral part of this course in order to develop leadership and career ready skills.

- Recommended Grade(s): 9, 10, 11
- Recommended Prerequisites: Introduction to Agriculture, Food and Natural Resources
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective credits for all diplomas

7112 Agriculture Structures Fabrication and Design AG ST FAB DES Agricultural Structures Fabrication and Design is a two semester course that focuses on metal work, and agricultural structures. This course will allow students to develop skills in welding and metalworking, construction, fabrication, machine components and design while incorporating the engineering design process. Students will also cover safety topics for each area while demonstrating appropriate health and safety standards. •Recommended Grade(s): 10, 11, 12

- Required Prerequisites: Principles of Agriculture
- Recommended Prerequisites: Introduction to Agriculture, Food and Natural Resources
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective credits for all diplomas

7228 Agriculture Mechanization and Technology Capstone AG MECH CAP The Agriculture Mechanization and Technology Capstone course builds upon the knowledge and skills developed in the Principles, Ag Power, Structures and Technology, Agricultural Structures Fabrication and Design courses by developing advanced skills that students can apply to the field. Students enrolled in this course will participate in lab activities involving agricultural equipment such as fueled power engines, electrical motors, pneumatic and hydraulic systems, etc. Students will be instructed on the operation, maintenance, repair, engineering and design of the agricultural mechanics and technology systems. As a capstone course, students should have the opportunity to apply their knowledge and use skills through an intensive work-based learning experience.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Ag Power, Structures and Technology; Ag Structures Fabrication and Design (-or- Precision Ag) •Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits max
- Counts as a directed elective or elective credits for all diplomas

7230 Agriculture Biotechnology Capstone AG BIO CAP Ag Biotechnology is a two semester course that concentrates on the applications of biotechnology in the agricultural industry. Students enrolled in this course will apply the use of living organisms to solve problems or make useful products. Students will become familiar with laboratory procedures such as cell/tissue culture, micropropagation, electrophoresis, etc. Students enrolled in this course will be required to use data and scientific techniques to solve problems concerning living organisms and will demonstrate competence in the application of principles and techniques for the development, application and management of biotechnology within the agriculture industry. As a capstone course, students should have the opportunity to apply their knowledge and use skills through an intensive work-based learning experience.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Agriscience Concentrator Sequence
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits max

7114 Greenhouse and Soilless Production GRN S PROD Greenhouse and Soilless Production is a two semester course that provides an overview of structural designs and uses of enclosed structures (greenhouses) to grow various plants and food. The course will focus on discussing different types of enclosed structures, management

systems, and growing systems used to produce plants and food. The course will also present an overview of soilless growing systems such as hydroponics, aquaponics, aeroponics and fogponics. Students will utilize the school greenhouse as part of this course.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Agriculture
- Recommended Prerequisites: Introduction to Agriculture, Food and Natural Resources
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective credits for all diplomas

7232 Horticulture Capstone HORT CAP The Horticulture Capstone course builds upon the knowledge and skills developed in the Principles, Horticultural Science, and Greenhouse and Soilless Production courses by developing advanced skills that students can apply to the field. As a capstone course, students should have the opportunity to apply their knowledge and use skills through an intensive work based learning experience.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Agriculture; Horticultural Science; Greenhouse and Soilless Production
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits max
- Counts as a directed elective or elective credits for all diplomas

BUSINESS, MANAGEMENT & ADMINISTRATION

Business Management and Administration: Supply Chain and Logistics			
Principles	CTE Concentrator A	CTE Concentrator B	Pathway Capstone
4562- Principles of Business Mgmt	7155- Logistics and Management	7142- Supply Chain Management	7258- Supply Chain Management Capstone

Business Operations and Technology			
Principles	CTE Concentrator A	CTE Concentrator B	Pathway Capstone
7153 Principles of Business Operations and Technology	7144 Business Office Communications	7146 Digital Data Applications	7254 Business Operations and Technology Capstone

4562 Principles of Business Management (BUS MGMT) Principles of Business Management focuses on the roles and responsibilities of managers as well as opportunities and challenges of ethically managing a business in the free-enterprise system. Students will attain an understanding of management, team building, leadership, problem-solving steps and processes that contribute to the achievement of organizational goals. The management of human and financial resources is emphasized.

- Recommended Grade: 11,12
- Recommended Prerequisites: Introduction to Business
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

4518 Introduction to Business (INTO BUS) Introduction to Business introduces students to the world of business, including the concepts, functions, and skills required for meeting the challenges of operating a business in the twenty- first century on a 272 Indiana Department of Education 2021-2022 High School Course Titles and Descriptions local, national, and/or international scale. The course covers business management, entrepreneurship, marketing fundamentals, and business ethics and law. The course develops business vocabulary and provides an overview of business and the role that business plays in economic, social, and political environments.

- Recommended Grade: 9, 10
- Credits: 1 to 2 semester course, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7155 Logistics Management SUP CH MAN FUN Logistics Management provides students the opportunity to explore how essential managerial functions relate to the various components of a logistics operation. Logistics concepts are High School Course Titles and Descriptions 2022-2023 275 approached from a manufacturing perspective with a focus on system integration and automation and lean manufacturing operations. Topics will include logistics systems, supply chain management, order, demand inventory and warehouse management, and automated components of a logistics system. Students will be prepared for the MSSC Certified Logistics Associate (CLA) and MSSC Certified Logistics Technician (CLT) certifications.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Business Management
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7142 Supply Chain Management ADV SUP CH MAN Supply Chain Management will build upon the knowledge and skills developed in the Logistics Management course by focusing on specific aspects of Supply Chain Management such as supply chain strategy, planning and design, customer service, purchasing, forecasting, inventory and warehouse management, as well as an in-depth study of transportation systems. Students will examine various modes of transportation and their associated characteristics, economics, and regulations.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Business Management; Logistics Management
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7258 Supply Chain Management Capstone SUP CH MGMT CAP Supply Chain Management Capstone course will build upon the knowledge and skills learned in previous courses by taking a deeper dive into Procurement, Operations Management, Lean Manufacturing Systems.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Business Management; Logistics Management; Supply Chain Management
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

7153 Principles of Business Operations and Technology PRIN BUS OP TECH The Principles of Business Operations and Technology course will prepare students to plan, organize, direct, and control the functions and processes of a firm or organization and be successful in a work environment. Students are provided opportunities to develop attitudes and apply skills and knowledge in the areas of business, management, Microsoft office, and finance. Individual experiences will be based upon the student's career and educational goals.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7144 Business Office Communications BUS OFF COMM The Business Office Communications course emphasizes the analysis of communication to direct the choice of oral and written methods and techniques. It includes practice in writing a variety of messages used to communicate in business and industry with an emphasis on the potential impact of the message on the receiver as a basis for planning and delivering effective business communications. Through projects and the development of messages students will develop their knowledge and skills for the use of Microsoft Word and Microsoft PowerPoint.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Business Operations and Technology
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7146 Digital Data Applications DGTL REC KEEP Students will use Microsoft Excel to sort and search records, combine files, produce reports, and to extract data from a file. This course is designed to include creating and formatting worksheets, using formulas and basic functions, creating charts, and printing professional-looking reports. Additionally students will use Microsoft Access to create a database and to manage a database through the creation and modification of a query. Students will also be expected to produce reports from the information.

- Recommended Grade(s): 10, 11, 12

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

7254 Business Operations and Technology Capstone BUS OPER CAP Digital literacy has become increasingly important to the business environment. Technological advances provide opportunities for businesses to survey inclusion of new innovations. This course discusses, identifies, researches, and applies emerging technologies. Discussing new technology and understanding the importance of updating skills is necessary for today's business operations.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Business Operations and Technology; Business Office Communications; Digital Data Applications
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

CIVIL CONSTRUCTION

Civil Construction (Heavy Highway)			
Principles	CTE Concentrator A	CTE Concentrator B	Pathway Capstone
7130 Principles of Construction Trades	7121 Civil Construction Fundamentals	7118 Advanced Civil Construction	7240 Civil Construction Capstone

7130 Principles of Construction Trades PRIN CON TR Principles of Construction Trades prepares students with the basic skills needed to continue in a construction trade field. Topics will include an introduction to the types and uses for common hand and power tools, learn the types and basic terminology associated with construction drawings, and basic safety. Additionally students will study the roles of individuals and companies within the construction industry and reinforce mathematical and communication skills necessary to be successful in the construction field.

- Recommended Grade(s): 9, 10, 11
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7121 Civil Construction Fundamentals CIV CON FUN Civil Construction Fundamentals covers the first half of NCCER Heavy Highway Construction Level 1. Its modules cover topics such as orientation to the trade, identification of equipment used in heavy highway construction, heavy highway construction safety, work-zone safety, soils, site work, excavation math, and interpreting civil drawings. The NCCER Heavy Highway Construction Level 1 certificate will not be awarded until the student successfully completes both this course and Advanced Civil Construction.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Construction Trades
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7118 Advanced Civil Construction ADV CIV CON Advanced Civil Construction builds upon the knowledge and skills learned in the fundamentals course and covers the second half of NCCER Heavy Highway Construction Level 1. Its modules cover topics such as rigging practices, crane safety and emergency procedures, basic principles of cranes, and crane communications. The NCCER Heavy Highway Construction Level 1 certificate and wallet card will also be awarded upon successful completion of this course.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Construction Trades; Civil Construction Fundamentals
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7240 Civil Construction Capstone CIV CSTR CAP The Heavy Highway Capstone course covers topics such as introduction to earthmoving, finishing and grading, trenching and excavating, plant operations, paving, horizontal formwork, and vertical formwork. Additionally, students will learn skills associated with working with concrete and bridge construction. The course prepares students for the NCCER Level 2 certificate.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Construction Trades; Civil Construction Fundamentals; and Advanced Civil Construction

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

DIGITAL DESIGN

Digital Design			
Principles	CTE Concentrator A	CTE Concentrator B	Pathway Capstone
7140 Principles of Digital Design	7141 Digital Design Graphics	5550 Graphic Design and Layout	7246 Digital Design Graphics

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

- Recommended Grade(s): 9, 10, 11
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7141 Digital Design Graphics DIG DES GRAPH Digital Design Graphics will help students to understand and create the most common types of computer graphics used in visual communications. Skills are developed through work with professional vector-based and page layout software used in the industry. Additionally, students will be introduced to a full range of image input technology and manipulation including conventional photography, digital imaging, and computer scanners. Students will learn to communicate concepts and ideas through various imaging devices.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Digital Design
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

5550 Graphic Design and Layout GRAPH DES LT Graphic Design and Layout teaches design process and the proper and creative use of type as a means to develop effective communications for global, corporate and social application. Students will create samples for a portfolio, which may include elements or comprehensive projects in logo, stationery, posters, newspaper, magazine, billboard, and interface design.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Digital Design; Digital Design Graphics
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Principles course is not required until the 24-25 school year because this course is included in Perkins V pathways.
- Schools wishing to offer this course for multiple credits should utilize Next Level Programs of Study courses.

7246 Digital Design Capstone DIG DES CAP The Digital Design Capstone course provides students the opportunity to dive deeper into advanced concepts of Visual Communication including user experience/user interface design, video production editing, animation and/or web design. Depending on the length of the course, students may focus their efforts on one area or explore multiple aspects.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Digital Design Concentrator Sequence

Education

Education and Training Education Professions			
Principles	CTE Concentrator A	CTE Concentrator B	Pathway Capstone
7161- Principles of Teaching	7157-Child and Adolescent Development	7162- Teaching and Learning	7267- Education Professions Capstone

Early Childhood Education			
Principles	CTE Concentrator A	CTE Concentrator B	Pathway Capstone
7160 Principles of Early Childhood Education	7158 Early Childhood Education Curriculum	7159 Early Childhood Education Guidance	7259 Early Childhood Education Capstone

7161 Principles of Teaching PRIN TEACH This course provides a general introduction to the field of teaching. Students will explore educational careers, teaching preparation, and professional expectations as well as requirements for teacher certification. Current trends and issues in education will be examined. A minimum 20 hour classroom observation experience is required for successful completion of this course.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7157 Child and Adolescent Development CHLD ADL DEV Child and Adolescent Development examines the physical, social, emotional, cognitive, and moral development of the child from birth through adolescence with a focus on the middle years through adolescence. Basic theories of child development, biological and environmental foundations of development, and the study of children through observation and interviewing techniques are explored. The influence of parents, peers, the school environment, culture and the media are discussed. An observation experience up to 20 hours may be required for completion of this course. This course has been approved to be offered for dual credit. Students pursuing this course for dual credit are still required to meet the minimum prerequisites for the course and pass the course with a C or better in order for dual credit to be awarded.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Teaching
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diploma

7162 Teaching and Learning TEACH LRN Teaching and Learning provides students the opportunity to apply many of the concepts that they have learned throughout the Education Professions pathway. In addition to a focus on best practices, this course will provide an introduction to the role that technology plays in the modern classroom. Through hands-on experience with educational software, utility packages, and commonly used microcomputer hardware, students will analyze ways to integrate technology as a tool for instruction, evaluation, and management.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Teaching
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7267 Education Professions Capstone ED PROF CAP The Education Professions Capstone provides an extended opportunity for field experience to further apply concepts that have been presented throughout the pathway. Students will also have the opportunity to explore the topics of exceptional child and literacy development through children’s literature. Students will gain a deeper understanding of inclusive teaching techniques along with policies, theories, and laws related to special education. Students interested in pursuing a career in Elementary Education are encouraged to also study the benefits of using children’s literature in the classroom. This course may be further developed to include specific content for students interested in pursuing a career in secondary education. The course should include a significant classroom observation and assisting experience.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Teaching; Child and Adolescent Development, Teaching and Learning
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diploma

7160 Principles of Early Childhood Education PRIN EAR CH ED This course provides students with an overview of skills and strategies necessary to successfully complete a certificate. Additionally, it 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. This course also examines basic principles of child development, Developmentally Appropriate Practices (DAP), importance of family, licensing, and elements of quality care of young children with an emphasis on the learning environment related to health, safety, and nutrition. Students may be required to complete observations and field experiences with children as related to this course.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7158 Early Childhood Education Curriculum EAR CHD ED CUR Early Childhood Education Curriculum examines developmentally appropriate environments and activities in various childcare settings while exploring the varying developmental levels and cultural backgrounds of children. Students may be required to complete observations and field experiences with children as related to this course.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Early Childhood Education
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diploma

7159 Early Childhood Education Guidance EAR CHD ED GD This course allows students to analyze developmentally appropriate guidance, theory and implementation for various early care and education settings. It

also provides a basic understanding of the anti-bias/multicultural emphasis in the field of early childhood. Students may be required to complete observations and field experiences with children as related to this course.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Early Childhood Education
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diploma

7259 Early Childhood Education Capstone ERLY CHILD CAP This course will prepare students to complete the application, CDA exam, and verification process for the Child Development Associate (CDA) credential. Students may also study the physical, social, emotional, cognitive, and moral development of children from conception to age twelve. Theories of child development, biological and environmental foundations, prenatal development, the birth process, and the newborn baby will be discussed. Additionally, students will explore the aspects of early literacy skill development in young children from birth through third grade. Students will explore techniques, technological tools and other learning opportunities that encourage positive attitudes in children regarding listening, speaking, reading and writing activities. In the course, students will research, examine and explore the use of observation in screening and assessment to promote healthy literacy development in early childhood education. Finally, students will be provided an introduction to caring for each exceptional child. This includes theories and practices for producing optimal developmental growth. Students may be required to complete observations and field experiences with children as related to this course.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Early Childhood Education; Early Childhood Curriculum; Early Childhood Guidance
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diploma

FAMILY AND CONSUMER SCIENCE

Hospitality and Tourism Culinary Arts- Baking and Pastry			
Principles	CTE Concentrator A	CTE Concentrator B	Pathway Capstone
7173- Principles of Culinary and Hospitality	7171- Nutrition	7169- Culinary Arts	7233- Culinary Capstone

0530 Career Exploration Internship (CARR EXP) The Career Exploration Internship course is a paid or unpaid work experience in the public or private sector that provides for workplace learning in an area of student career interests. Unlike the work-based Learning capstone course in which students gain expertise in a specific occupation, the career exploration internship is intended to expose students to broad aspects of a particular industry or career cluster area by rotating through a variety of work sites or departments. In addition to their workplace learning activities, students participate in 1) regularly scheduled meetings with their classroom teacher, or 2) a regularly scheduled seminar with the teacher for the purpose of helping students make the connection between academic learning and their work-related experiences. Specific instructional standards tied to the career cluster or pathway and learning objectives for the internship must be written to clarify the expectations of all parties – the student, parent, employer, and instructor.

- Recommended Grade: 9, 10, 11, 12
- Recommended Prerequisites: Preparing for College and Careers; Career Information and Exploration
- Credits: 1 semester course, 1-3 credits per semester, 6 credits maximum
- A minimum of 85 hours of workplace and classroom activities are required for one credit; 170 hours are required for the two credits. Of the 85 or 170 hours, 18 to 36 hours (at least
- Counts as a directed elective or elective for all diplomas
- Note: This course is exploratory in nature and, as such, does not qualify for reimbursement under the career and technical education funding formula.

5362 Child Development (CHLD DEV) Child Development is an introductory course for all students as a life foundation and academic enrichment; it is especially relevant for students interested in careers that draw on knowledge of children, child development, and nurturing of children. This course addresses issues of child development from conception/prenatal through age 3. It includes the study of prenatal development and birth; growth and development of children; child caregiving and nurturing; and support systems for parents and caregivers. A project-based approach that utilizes higher order thinking, communication, leadership, management processes, and fundamentals to college and career success is recommended in order to integrate these topics into the study of child development. Direct, concrete mathematics and language arts proficiencies will be applied. Authentic applications such as introductory laboratory/field experiences with young children and/or service learning that build knowledge of children, child development, and nurturing of children are strongly recommended. This course provides the foundation for continuing and post-secondary education in all career areas related to children, child development, and nurturing of children.

- Recommended Grade: 10, 11, 12
- Credits: 1 credit per semester, 1 credit maximum
- Directed elective or elective for all diplomas

5360 Advanced Child Development (ADV CHLD DEV) Advanced Child Development is for those students interested in life foundations, academic enrichment, and/or careers related to knowledge of children, child development, and nurturing of children. This course addresses issues of child development from ages four through age eight (grade three). It builds on the Child Development course, which is a prerequisite. Advanced Child

Development includes the study of professional and ethical issues in child development; child growth and development; child development theories, research, and best practices; child health and wellness; teaching and guiding children; special conditions affecting children; and career exploration in child development and nurturing. A project-based approach that utilizes higher order thinking, communication, leadership, management, and fundamentals to college and career success is recommended in order to integrate these topics into the study of child development. Direct, concrete mathematics and language arts proficiencies will be applied.

- Recommended Grade: 10, 11, 12
- Recommended Prerequisites: Child Development
- Credits: 1 or 2 semester course, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

5334 Consumer Economics (CONS ECON) Consumer Economics enables students to achieve high standards and competencies in economic principles in contexts of high relevance and applicability to their individual, family, workplace, and community lives. A project-based approach that utilizes higher order thinking, communication, leadership, and management processes is recommended in order to integrate suggested topics into the study of consumer economics issues. The course focuses on interrelationships among economic principles and individual and family roles of exchanger, consumer, producer, saver, investor, and citizen. Economic principles to be studied include scarcity, supply and demand, market structure, the role of government, money and the role of financial institutions, labor productivity, economic stabilization, and trade. Depending on needs and resources, this course may be taught in a local program. In schools where it is taught, it is recommended for all students regardless of their career pathway, in order to build basic economics proficiencies. Students understand how biology, chemistry, and physics principles apply to the composition of foods, the nutrition of foods, food product development, food processing, food safety and sanitation, food packaging, and food storage. Students completing this course will be able to apply the principles of scientific inquiry to solve problems related to biology, physics, and chemistry in the context of highly advanced industry applications of foods.

- Recommended Grade: 11, 12
- Credits: 1 credit per semester, 1 credit maximum
- Counts as a directed elective or elective for all diplomas
- Qualifies as a quantitative reasoning course

5404 Education Professions II (ED PROF II) Education Professions II 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. Extensive field experiences in one or more classroom settings, resumes, and career portfolios are required components. A standards-based plan guides the students' field experiences. Students are monitored in their field experiences by the Education Professions II teacher. Articulation with postsecondary programs is encouraged.

- Recommended Grade: 12
- Required Prerequisites: Education Professions I
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a directed elective or elective for all diplomas

5366 Human Development and Wellness (HUMAN DEV) Human Development and Wellness is valuable for all students as a life foundation and academic enrichment; it is especially relevant for students interested in careers impacted by individuals' physical, social, emotional, and moral development and wellness across the lifespan. Major topics include principles of human development and wellness; impacts of family on human development

and wellness; factors that affect human development and wellness; practices that promote human development and wellness; managing resources and services related to human development and wellness; and career exploration in human development and wellness. Life events and contemporary issues addressed in this course include (but are not limited to) change; stress; abuse; personal safety; and relationships among lifestyle choices, health and wellness conditions, and diseases. A project-based approach that utilizes higher order thinking, communication, leadership, and management processes is recommended in order to integrate the study of these topics. Authentic applications through service learning are encouraged.

- Recommended Grade: 10, 11, 12

- Credits: 1 or 2 semester course, 1 credit per semester, 2 credits maximum

- Counts as a directed elective or elective for all diplomas

- Qualifies as one of the FACS courses a student can take to waive the Health & Wellness graduation requirement.

To qualify for the Health and Wellness waiver, a student must take three of the approved courses. For more information, see 511 IAC 6-7.1-4(c)(6).

5364 Applied Interpersonal Relationships (INTRP RLT) Applied Interpersonal Relationships is an introductory course that is relevant for students interested in careers that involve interacting with people and for everyday life relationships. This course addresses knowledge and skills needed for positive and productive relationships in career, community, and family settings. Major course topics include communication skills; leadership, self-determination, teamwork, and collaboration; conflict prevention, resolution, and management; building and maintaining relationships; and individual needs and characteristics and their impacts on relationships. A project or community-based approach is recommended in order to apply these topics of interpersonal relationships. This course provides a foundation for all careers and everyday life relationships that involve interacting with people both inside and outside of a business/organization, including team members, clients, patients, customers, the general public, family and friends.

- Recommended Grade: 9, 10, 11, 12

- 2 units maximum

- Counts as an Employability Requirement or elective for the Certificate of Completion

5438 Introduction to Culinary Arts and Hospitality (INT CUL HOS) Introduction to Culinary Arts and Hospitality is recommended for all students regardless of their career cluster or pathway, in order to build basic culinary arts knowledge and skills. It is especially appropriate for students with an interest in careers related to Hospitality, Tourism, and Culinary Arts. A project based approach that utilizes higher order thinking, communication, leadership, and management processes is recommended. Topics include basic culinary skills in the foodservice industry, safety and sanitation, nutrition, customer relations and career investigation. Students are able to explore this industry and examine their own career goals in light of their findings. Laboratory experiences that emphasize industry practices and develop basic skills are required components of this course.

- Recommended Grade: 9, 10

- Recommended Prerequisites: Nutrition and Wellness; Advanced Nutrition and Wellness

- Credits: 1-2 semester course, 1 credit per semester, 2 credits maximum

- Counts as a directed elective or elective for all diplomas

5340 Advanced Nutrition and Wellness (ADV NTRN WEL) Advanced Nutrition and Wellness is a course which provides an extensive study of nutrition. This course is recommended for all students wanting to improve their nutrition and learn how nutrition affects the body across the lifespan. Advanced Nutrition and Wellness is an especially appropriate course for students interested in careers in the medical field, athletic training and dietetics. This course builds on the foundation established in Nutrition and Wellness, which is a required prerequisite. This is a project based course; utilizing higher-order thinking, communication, leadership and management processes. Topics include extensive study of major nutrients, nutritional standards across the lifespan, influences on

nutrition/food choices, technological and scientific influences, and career exploration in this field. Laboratory experiences will be utilized to develop food handling and preparation skills; attention will be given to nutrition, food safety and sanitation. This course is the second in a sequence of courses that provide a foundation for continuing and post-secondary education in all career areas related to nutrition, food, and wellness.

- Recommended Grade: 10, 11, 12
- Recommended Prerequisites: Nutrition and Wellness
- Credits: 1 or 2 semester course, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

5394 Preparing for College and Careers (PREP CC) 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 employability skills, transferring school skills to life and work; and managing personal resources. This course includes reviewing the 16 national career clusters and Indiana's College and Career Pathways, in-depth investigation of one or more pathways, reviewing graduation plans, developing career plans, and developing personal and career portfolios. A project based approach, including computer and technology applications, cooperative ventures between school and community, simulations, and real world experiences, is recommended.

- Recommended Grade: 9
- Credits: 1 to 2 semester course, 1 credit per semester, 2 credits maximum
- Only 1 credit may count toward CTE Concentrator Status for Perkins IV Pathways
- Qualifies as one of the FACS courses a student can take to waive the Health & Wellness graduation requirement. To qualify for a waiver, a student must take three of the approved courses. For more information, please see 511 IAC 6-7.1-4(c)(6).
- Counts as a directed elective or elective for all diplomas

5974 Work Based Learning Capstone (WBL) Work Based Learning Capstone is a stand-alone course that prepares students for college and career. Work-Based Learning means sustained interactions with industry or community professionals in real workplace settings, to the extent practicable, or simulated environments at an educational institution that foster in-depth, first hand engagement with the tasks required of a given career field, that are aligned to curriculum and instruction. Work Based Learning Capstone experiences occur in workplaces and involve an employer assigning a student meaningful job tasks to develop his or her skills, knowledge, and readiness for work. A clear partnership agreement and training plan is developed by the student, teacher, and workplace mentor/supervisor to guide the student's work-based experiences and assist in evaluating achievement and performance. Related Instruction shall be organized and planned around the activities associated with the student's individual job and career objectives in a pathway and shall be taught during the same semester the student is participating in the work-based experience. For a student to become employable, the related instruction should cover: (a) employability skills, and (b) specific occupational competencies.

- Recommended Grade: 12
- Required Prerequisites: Complete at least one advanced career and technical education course from a program or program of study. Worksite placement must align to the student pathway.
- Credits: 1 semester course, 1-3 credits per semester, 6 credits maximum
- A minimum of 85 hours of workplace and classroom activities are required for one credit; 170 hours are required for the two credits. Of the 85 or 170 hours, 18 to 36 hours (at least 1 hour a week or the equivalent over a semester or year) must be spent in related classroom instruction.
- Counts as a directed elective or elective for all diplomas

Cooperative Education (COOP EDU) Cooperative Education is an approach to employment training that spans all career and technical education program areas through school-based instruction and on the job training. Time allocations are a minimum of fifteen hours per week of on-the-job training and approximately five hours per week of school-based instruction, focused on employability skills development. Additionally, all state and federal laws and regulations related to student employment and cooperative education must be followed.

- Recommended Grade: 12

- Recommended Prerequisites: Preparing for College and Careers, two credits in a career and technical education course

- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum

- Counts as a directed elective or elective for all diplomas

FINE ARTS

Fine Arts Pathway	Required Courses	Advanced Coursework	Electives
Visual Arts			
	Introduction to 2D Art (4000) or	Advanced 2D (4004) or	Drawing (4060)
	Introduction to 3D Art (4002)	Advanced 3D Art (4002)	Sculpture (4044)
			Painting (4064)
			Ceramics (4040)
	Principles of Business Management (4562) or		Art History and Appreciation (4024)
	Education Professions I (5408) or		Photography 4062
	Principles of Teaching (7161)		Education Professions I (5408)
			Education Professions II (5404)
	(2 Courses)		Advanced 2D Art (4004)
			Advanced 3D Art (4006)
Band			
	Beginning Concert Band (4160)	Advanced Concert Band (4170)	Music Theory and Composition (4208)
	Intermediate Concert Band (4168)		Music History and Appreciation (4206)
			Jazz Band (4164)
	Principles of Business Management (4562) or		Applied Music (4200)
	Education Professions I (5408)		Piano and Electric Keyboard (4204)
	Principles of Teaching (7161)		Theatre Production (4248)
			Education Professions I (5408)
	(3 Courses)		Education Professions II (5404)
Choral			
	Beginning Concert Choir (4182)		Music Theory and Composition (4208)
	Intermediate Concert Choir (4186)	Advanced Concert Chorus (4188)	Musical Theatre (0518)
			Music History and Appreciation (4206)
	Principles of Business Management (4562) or		Education Professions I (5408)
	Education Professions I (5408) or		Applied Music (4200)
	Principles of Teaching (7161)		Piano and Electric Keyboard (4204)
			Theatre Production (4248)

	(3 Courses)		Education Professions I (5408)
			Education Professions II (5404)
Theatre Arts	Theatre Arts (4242)	Advanced Theatre Arts (4240)	Technical Theatre (4244)
			Education Professions I (5408)
	Principles of Business Management (4562) or		Education Professions II (5404)
	Education Professions I (5408) or		Theatre Production (4248)
	Principles of Teaching (7161)		Music Theory and Composition (4208)
			Music History and Appreciation (4206)
	(2 Courses)		Musical Theatre (0518)
*Students will maintain an eportfolio of work, projects, performances, and experiences. The portfolio will be submitted at the			
end of the advanced coursework for review. Additional materials may be added from electives			
**Students will complete the Employability Skills Form to document employability skills from projects, internships, and			
experiences.			

MUSIC COURSE TITLES

4160 Beginning Concert Band (L) (BEG BAND) Beginning Concert Band is based on the Indiana Academic Standards for High School Instrumental Music. Students taking this course are provided with a balanced comprehensive study of music through the concert band, which develops skills in the psychomotor, cognitive, and affective domains. Ensemble and solo activities are designed to develop elements of musicianship including tone production, technical skills, intonation, music reading skills, listening skills, analyzing music, studying historically significant styles of literature, and integration of other applicable disciplines. Experiences include improvising, conducting, playing by ear, and sight-reading. Students develop the ability to understand and convey the composer's intent in performance of music. Time outside of the school day may be scheduled for rehearsals and performances. A limited number of public performances may serve as a culmination of daily rehearsal and musical goals. Students are required to participate in performance opportunities outside of the school day that support and extend learning in the classroom.

- Recommended Grade: 9, 10, 11, 12
- Credits: 1 semester course, 1 credit per semester. The nature of this course allows for successive semesters of instruction at an advanced level provided that defined proficiencies and content standards are utilized.
- Counts as a directed elective or elective for all diplomas

- Fulfills a Fine Arts requirement for the Core 40 Academic Honors Diploma

4182 Beginning Chorus (L) (BEG CHOR) Beginning Chorus is based on the Indiana Academic Standards for High School Choral Music. Students taking Beginning Chorus develop musicianship and specific performance skills through ensemble and solo singing. This class includes the study of quality repertoire in the diverse styles of choral literature appropriate in difficulty and range for the students. Chorus classes provide opportunities for performing, creating, and responding to music. Students develop the ability to understand and convey the composer's intent in performance of music. Time outside of the school day may be scheduled for rehearsals and performances. A limited number of public performances may serve as a culmination of daily rehearsal and musical goals. Students are required to participate in performance opportunities outside of the school day that support and extend learning in the classroom.

- Recommended Grade: 9, 10, 11, 12

- Credits: 1 semester course, 1 credit per semester. The nature of this course allows for successive semesters of instruction at an advanced level provided that defined proficiencies and content standards are utilized.

- Counts as a directed elective or elective for all diplomas

- Fulfills a Fine Arts requirement for the Core 40 Academic Honors Diploma

4186 Intermediate Chorus (Harmonia) (L) (INT CHOR) Intermediate Chorus is based on the Indiana Academic Standards for High School Choral Music. Students taking Intermediate Chorus develop musicianship and specific performance skills through ensemble and solo singing. This class includes the study of quality repertoire in the diverse styles of choral literature appropriate in difficulty and range for the students. Chorus classes provide opportunities for performing, creating, and responding to music. Students develop the ability to understand and convey the composer's intent in performance of music. Time outside of the school day may be scheduled for rehearsals and performances. A limited number of public performances may serve as a culmination of daily rehearsal and musical goals. Students are required to participate in performance opportunities outside of the school day that support and extend learning in the classroom. 90 Indiana Department of Education 2021-2022 High School Course Titles and Descriptions

- Recommended Grade: 10, 11, 12

- Recommended Prerequisites: Beginning Chorus

- Credits: 1 semester course, 1 credit per semester. The nature of this course allows for successive semesters of instruction at an advanced level provided that defined proficiencies and content standards are utilized.

- Counts as a directed elective or elective for all diplomas

- Fulfills a Fine Arts requirement for the Core 40 Academic Honors Diploma

4188 Advanced Chorus (Manitous) (L) (ADV CHOR) Advanced Chorus is based on the Indiana Academic Standards for High School Choral Music. Students taking Advanced Chorus develop musicianship and specific performance skills through ensemble and solo singing. This class includes the study of quality repertoire in the diverse styles of choral literature appropriate in difficulty and range for the students. Chorus classes provide opportunities for performing, creating, and responding to music. Students develop the ability to understand and convey the composer's intent in performance of music. Time outside of the school day may be scheduled for rehearsals and performances. A limited number of public performances may serve as a culmination of daily rehearsal and musical goals. Students are required to participate in performance opportunities outside of the school day that support and extend learning in the classroom.

- Recommended Grade: 10, 11, 12

- Recommended Prerequisites: Beginning and Intermediate Chorus

- Credits: 1 semester course, 1 credit per semester. The nature of this course allows for successive semesters of instruction at an advanced level provided that defined proficiencies and content standards are utilized.

- Counts as a directed elective or elective for all diplomas

- Fulfills a Fine Arts requirement for the Core 40 Academic Honors Diploma

4200 Applied Music (L) (APPL MUS) Applied Music is based on the Indiana Academic Standards for High School Choral or Instrumental Music. Applied Music offers high school students the opportunity to receive small group or private instruction designed to develop and refine performance skills. A variety of music methods and repertoire is utilized to refine students' abilities in performing, creating, and responding to music.

- Recommended Grade: 10, 11, 12
- Credits: 1 semester course, 1 credit per semester. The nature of this course allows for successive semesters of instruction at an advanced level provided that defined proficiencies and content standards are utilized.
- Counts as a directed elective or elective for all diplomas
- Fulfills a Fine Arts requirement for the Core 40 Academic Honors Diploma

4206 Music History and Appreciation (MUS HIST) Music History and Appreciation is based on the Indiana Academic Standards for Music and standards for this specific course. Students receive instruction designed to explore music and major musical styles and periods through understanding music in relation to both Western and Non-Western history and culture. 92 Indiana Department of Education 2021-2022 High School Course Titles and Descriptions Activities include analyzing and describing music; evaluating music and music performances; and understanding relationships between music and the other arts, as well as disciplines outside of the arts.

- Recommended Grade: 9, 10, 11, 12
- Credits: 1 or 2 semester course, 1 credit per semester. The nature of this course allows for two successive semesters of instruction at an advanced level provided that defined proficiencies and standards are utilized.
- Counts as a directed elective or elective for all diplomas
- Fulfills a Fine Arts requirement for the Core 40 Academic Honors Diploma

THEATRE ARTS COURSE TITLES

5232 Interactive Media (INT MEDIA) Interactive Media prepares students for careers in business and industry working with interactive media products and services which includes the entertainment industries. This course emphasizes the development of digitally-generated or computer-enhanced products using multimedia technologies. Students will develop an understanding of professional business practices including the importance of ethics, communication skills, and knowledge of the “virtual workplace.”

- Recommended Grade: 11, 12
- Recommended Prerequisites: Introduction to Communications; Digital Applications and Responsibility
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a directed elective or elective for all diplomas

4242 Theatre Arts (L) (THTR ARTS) Theatre Arts is based on the Indiana Academic Standards for Theatre. Students enrolled in Theatre Arts read and analyze plays, create scripts and theatre pieces, conceive scenic designs, and develop acting 96 Indiana Department of Education 2021-2022 High School Course Titles and Descriptions skills. These activities incorporate elements of theatre history, culture, analysis, response, creative process, and integrated studies. Additionally, students explore career opportunities in the theatre, attend and critique theatrical productions, and recognize the responsibilities and the importance of individual theatre patrons in their community.

- Recommended Grade: 9, 10, 11, 12
- Credits: 1 semester course, 1 credit per semester. The nature of this course allows for successive semesters of instruction at an advanced level provided that defined proficiencies and content standards are utilized.
- Counts as a directed elective or elective for all diplomas
- Fulfills a Fine Arts requirement for the Core 40 Academic Honors Diploma

4240 Advanced Theatre Arts (L) (ADV THTR) Advanced Theatre Arts is based on the Indiana Academic

Standards for Theatre. Students enrolled in Advanced Theatre Arts read and analyze plays and apply criteria to make informed judgments. They draw on events and experiences to create scripted monologues and scenes, create scenic designs for existing plays, and build characters through observation, improvisation and script analysis. These activities should incorporate elements of theatre history, culture, analysis, response, creative process, and integrated studies. Additionally, students explore careers in theatre arts and begin to develop a portfolio of their work. They also attend and critique theatre productions and identify ways to support the theatre in their community.

- Recommended Grade: 10, 11, 12
- Recommended Prerequisites: Theatre Arts I and II (L)
- Credits: 1 semester course, 1 credit per semester. The nature of this course allows for successive semesters of instruction at an advanced level provided that defined proficiencies and content standards are utilized.
- Counts as a directed elective or elective for all diplomas
- Fulfills a Fine Arts requirement for the Core 40 Academic Honors Diploma

4244 Technical Theater (L) (TECH THTR) Technical Theater is based on the Indiana Academic Standards for Theater. Students enrolled in Technical Theater actively engage in the process of designing, building, managing, and implementing the technical aspects of a production. These activities should incorporate elements of theater history, culture, analysis, response, creative process, and integrated studies. Additionally, students explore career opportunities in the theater, attend and critique theatrical productions, and recognize the responsibilities and the importance of individual theater patrons in their community.

- Recommended Grade: 9, 10, 11, 12
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 1 semester course, 1 credit per semester. The nature of this course allows for successive semesters of instruction at an advanced level provided that defined proficiencies and content standards are utilized.
- Counts as a directed elective or elective for all diplomas
- Fulfills a Fine Arts requirement for the Core 40 Academic Honors Diploma
- Laboratory Course

VISUAL ARTS COURSE TITLES

1086 Student Media (STDNT MEDIA) Student Media, a course based on the High School Journalism Standards and the Student Media Standards, is the continuation of the study of Journalism. Students demonstrate their ability to do journalistic writing and design for high school media, including school newspapers, yearbooks, and a variety of other media formats. Students follow the ethical principles and legal boundaries that guide scholastic journalism. Students express themselves publicly with meaning and clarity for the purpose of informing, entertaining, or persuading. Students work on high school media staff so that they may prepare themselves for career paths in journalism, communications, writing, or related fields.

- Recommended Grade: 9, 10, 11, 12
- Recommended Prerequisites: Journalism, Digital Media, or teacher recommendation
- Credits: 1 semester course, 1 credit per semester. The nature of this course allows for successive semesters of instruction at an advanced level or in different media types where defined proficiencies and content standards are utilized.
- Counts as a directed elective or elective for all diplomas
- Fulfills the Fine Arts requirement for the Core 40 with Academic Honors.

4000 Introduction to Two Dimensional Art (L) (2D ART) Introduction to Two-Dimensional Art is a course based on the Indiana Academic Standards for Visual Art. Students taking this course engage in sequential learning experiences that encompass art history, art criticism, aesthetics, production, and integrated studies 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.

- Recommended Grade: 9, 10, 11, 12
- Credits: 1 semester course, 1 credit per semester
- Counts as a directed elective or elective for all diplomas
- Fulfills a Fine Arts requirement for the Core 40 Academic Honors Diploma

4040 Ceramics (L) (CERAMICS) Ceramics is 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.

- Recommended Grade: 10, 11, 12
- Recommended Prerequisites: Introduction to Two-Dimensional Art (L), Introduction to ThreeDimensional Art (L)
- Credits: 1 semester course, 1 credit per semester. The nature of this course allows for successive semesters of instruction at an advanced level provided that defined proficiencies and content standards are utilized
- Counts as a directed elective or elective for all diplomas
- Fulfills a Fine Arts requirement for the Core 40 Academic Honors Diploma

4060 Drawing (L) (DRAWING) Drawing is a course based on the Indiana Academic Standards for Visual Art. Students in drawing engage in sequential learning experiences that encompass art history, art criticism, aesthetics, and production and lead to the creation of portfolio quality works. Students create drawings utilizing processes such as sketching, rendering, contour, gesture, and perspective drawing and use a variety of media such as pencil, chalk, pastels, charcoal, and pen and ink. They reflect upon and refine their work; explore cultural and historical connections; analyze, interpret, theorize, and make informed judgments about artwork and the nature of art; relate art to other disciplines and discover opportunities for integration; and incorporate literacy and presentational skills. Students utilize the resources of art museums, galleries, and studios, and identify art-related careers.

- Recommended Grade: 10, 11, 12
- Recommended Prerequisites: Introduction to Two-Dimensional Art (L)
- Credits: 1 semester course, 1 credit per semester. The nature of this course allows for successive semesters of instruction at an advanced level provided that defined proficiencies and content standards are utilized.
- Counts as a directed elective or elective for all diplomas
- Fulfills a Fine Arts requirement for the Core 40 Academic Honors Diploma

4064 Painting (L) (PAINTING) Painting is a course based on the Indiana Academic Standards for Visual Art. Students taking painting engage in sequential learning experiences that encompass art history, art criticism, aesthetics, and production that lead to the creation of portfolio quality works. Students create abstract and realistic paintings, using a variety of materials such as mixed media, watercolor, oil, and acrylics as well as techniques such as stippling, gouache, wash, and impasto. They reflect upon and refine their work; explore cultural and historical connections; analyze, interpret, theorize, and make informed judgments about artwork and the nature of art; relate art to other disciplines and discover opportunities for integration; and incorporate literacy and presentational skills. Students utilize the resources of art museums, galleries, and studios, and identify art-related careers.

- Recommended Grade: 10, 11, 12

- Recommended Prerequisites: Introduction to Two-Dimensional Art (L)
- Credits: 1 semester course, 1 credit per semester. The nature of this course allows for successive semesters of instruction at an advanced level provided that defined proficiencies and content standards are utilized.
- Counts as a directed elective or elective for all diplomas
- Fulfills a Fine Arts requirement for the Core 40 Academic Honors Diploma

4066 Printmaking (L) (PRNTMKG) Printmaking is a course based on the Indiana Academic Standards for Visual Art. Students in printmaking engage in sequential learning experiences that encompass art history, art criticism, aesthetics, and production that lead to the creation of portfolio quality works. Students apply media, techniques, and processes with sufficient skill to communicate intended meaning. They create abstract and realistic prints using a variety of materials such as linocut, woodcut, stencil, silkscreen, photo silkscreen, and mono-print. They utilize processes such as etching, relief, and lithography to explore a variety of ideas and problems. Students reflect upon and refine their work; explore cultural and historical connections; analyze, interpret, theorize, and make informed judgments about artwork and the nature of art; relate art to other disciplines and discover opportunities for integration; and incorporate literacy and presentational skills. Students utilize the resources of art museums, galleries, and studios, and identify art-related careers.

- Recommended Grade: 10, 11, 12
- Recommended Prerequisites: Introduction to Two-Dimensional Art (L)
- Credits: 1 semester course, 1 credit per semester. The nature of this course allows for successive semesters of instruction at an advanced level provided that defined proficiencies and content standards are utilized.
- Counts as a directed elective or elective for all diplomas
- Fulfills a Fine Arts requirement for the Core 40 Academic Honors Diploma

4044 Sculpture (L) (SCULTP) Sculpture is 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 portfolios that demonstrate a sincere desire to explore a variety of ideas and problems. They create realistic and abstract sculptures 105 Indiana Department of Education 2021-2022 High School Course Titles and Descriptions 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.

- Recommended Grade: 10, 11, 12
- Recommended Prerequisites: Introduction to Two-Dimensional Art (L), Introduction to ThreeDimensional Art
- Credits: 1 semester course, 1 credit per semester. The nature of this course allows for successive semesters of instruction at an advanced level provided that defined proficiencies and content standards are utilized.
- Counts as a directed elective or elective for all diplomas
- Fulfills a Fine Arts requirement for the Core 40 Academic Honors Diploma

4004 Advanced Two Dimensional Art (L) (ADV 2D ART) Advanced Two-Dimensional Art is 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.

- Recommended Grade: 9, 10, 11, 12
- Required Prerequisites: none
- Recommended Prerequisites: Introduction to Two-Dimensional Art (L)
- Credits: 1 semester course, 1 credit per semester. The nature of this course allows for successive semesters of instruction at an advanced level provided that defined proficiencies and content standards are utilized.
- Counts as a directed elective or elective for all diplomas
- Fulfills a Fine Arts requirement for the Core 40 Academic Honors Diploma
- Laboratory Course

4006 Advanced Three Dimensional Art (L) (ADV 3D ART) Advanced Three-Dimensional Art is a course based on the Indiana Academic Standards for Visual Art. Students in this course build on the sequential learning experiences of Introduction to Three-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 three-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.

- Recommended Grade: 9, 10, 11, 12
- Required Prerequisites: none
- Recommended Prerequisites: Introduction to Two-Dimensional Art (L), Introduction to Three- Dimensional Art
- Credits: 1 semester course, 1 credit per semester. The nature of this course allows for successive semesters of instruction at an advanced level provided that defined proficiencies and content standards are utilized
- Counts as a directed elective or elective for all diplomas
- Fulfills a Fine Arts requirement for the Core 40 Academic Honors Diploma
- Laboratory Course

FINE ARTS ELECTIVES

4024 Art History (ART HIST) Art History is a course based on the Indiana Academic Standards for Visual Art. Students taking Art History engage in sequential learning experiences that encompass art history, art criticism, aesthetics, and production. Students study works of art and artifacts from world cultures, engage in historically relevant studio activities; utilize research skills to discover social, political, economic, technological, environmental, and historical trends and 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.

- Recommended Grade: 9, 10, 11, 12
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 1 semester course, 1 credit per semester
- Counts as a directed elective or elective for all diplomas
- Fulfills a Fine Arts requirement for the Core 40 Academic Honors Diploma

4062 Photography (L) (PHOTOGRPH) Photography is a course based on the Indiana Academic Standards for Visual Art. Students in photography engage in sequential learning experiences that encompass art history, art criticism, aesthetics, and production and lead to the creation of portfolio quality works, creating photographs, films, and videos utilizing a variety of digital tools and darkroom processes. They reflect upon and refine their work; explore cultural and historical connections; analyze, interpret, theorize, and make informed judgments about artwork and the nature of art; relate art to other disciplines and discover opportunities for integration; and

incorporate literacy and presentational skills. Students utilize the resources of art museums, galleries, and studios, and identify art-related careers.

- Recommended Grade: 10, 11, 12
- Required Prerequisites: none
- Recommended Prerequisites: Introduction to Two-Dimensional Art (L)
- Credits: 1 semester course, 1 credit per semester. The nature of this course allows for successive semesters of instruction at an advanced level provided that defined proficiencies and content standards are utilized.
- Counts as a directed elective or elective for all diplomas
- Fulfills a Fine Arts requirement for the Core 40 Academic Honors Diploma
- Laboratory course

4208 Music Theory and Composition (L) (MUS THEORY) Music Theory and Composition is based on the Indiana Academic Standards for Music and standards for this specific course. Students develop skills in the analysis of music and theoretical concepts. Students develop ear training and dictation skills, compose works that illustrate mastered concepts, understand harmonic structures and analysis, understand modes and scales, study a wide variety of musical styles, study traditional and nontraditional music notation and sound sources as tools for musical composition, and receive detailed instruction in other basic elements of music.

- Recommended Grade: 9, 10, 11, 12
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 1 or 2 semester course, 1 credit per semester. The nature of this course allows for two successive semesters of instruction at an advanced level provided that defined proficiencies and standards are utilized.
- Counts as a directed elective or elective for all diplomas
- Fulfills a Fine Arts requirement for the Core 40 Academic Honors Diploma
- Laboratory Course

4204 Piano and Electronic Keyboard (L) (PIANO KEY) Piano and Electronic Keyboard is based on the Indiana Academic Standards for High School Music Technology and Instrumental Music. Students taking this course are offered keyboard classes in order to develop music proficiency and musicianship. Students perform with proper posture, hand position, fingering, rhythm, and articulation; compose and improvise melodic and harmonic material; create and perform simple accompaniments; listen to, analyze, sight-read, and study a variety of keyboard literature; study the elements of music as exemplified in a variety of styles; and make interpretive decisions.

- Recommended Grade: 9, 10, 11, 12
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 1 semester course, 1 credit per semester. The nature of this course allows for successive semesters of instruction at an advanced level provided that defined proficiencies and content standards are utilized.
- Counts as a directed elective or elective for all diplomas
- Fulfills a Fine Arts requirement for the Core 40 Academic Honors Diploma
- Laboratory Course

4248 Theater Production (L) (THTR PROD) Theater Production is based on the Indiana Academic Standards for Theater. Students enrolled in Theater Production take on responsibilities associated with rehearsing and presenting a fully-mounted theater production. They read and analyze plays to prepare for production; conceive and realize a design for a production, including set, lighting, sound and costumes; rehearse and perform roles in a production; and direct or serve as assistant director for a production. These activities should incorporate elements of theater history, culture, analysis, response, creative process, and integrated studies. Additionally, students

investigate a theater arts career then develop a plan for potential employment or further education through audition, interview, or presentation of a portfolio. Students also attend and critique theatrical productions and volunteer to support theater in their community.

- Recommended Grade: 9, 10, 11, 12

- Required Prerequisites: none

- Recommended Prerequisites: none

- Credits: 1 semester course, 1 credit per semester. The nature of this course allows for successive semesters of instruction at an advanced level provided that defined proficiencies and content standards are utilized.

- Counts as a directed elective or elective for all diplomas

- Fulfills a Fine Arts requirement for the Core 40 Academic Honors Diploma

- Laboratory Course

0518 Musical Theater (MUS THTR) Musical Theater is based on the Indiana Academic Standards for Theater. Students in this course study the history of musical theater and its place in today's society. They participate in staging, choreographing, rehearsing, and performing an original or existing musical work. This class may be taught collaboratively among music, theater, dance, and visual arts faculty. These activities should incorporate elements of theater history, culture, analysis, response, creative process, and integrated studies. Additionally, students explore career opportunities in the theater, attend and critique theatrical productions, and recognize the responsibilities and the importance of individual theater patrons in their community.

- Recommended Grade: 9, 10, 11, 12

- Required Prerequisites: none

- Recommended Prerequisites: none

- Credits: 1 semester course, 1 credit per semester. The nature of this course allows for successive semesters of instruction at an advanced level provided that defined proficiencies and content standards are utilized.

- Counts as a directed elective or elective for all diplomas

- Fulfills a Fine Arts requirement for the Core 40 Academic Honors Diploma

- Laboratory Course

HEALTH AND PHYSICAL EDUCATION

3506 Health and Wellness Education (HLTH & WELL) Health and Wellness, a course based on Indiana's Academic Standards for Health and Wellness and 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 (essential concepts); 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. This course includes the application of priority areas in a planned, sequential, comprehensive health education curriculum. Priority areas include: promoting personal health and wellness, physical activity, and 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. This course provides students with the knowledge and skills of health and wellness core concepts, analyzing influences, accessing information, interpersonal communication, decision-making and goal-setting skills, health-enhancing behaviors, and health and wellness advocacy skills.

- Recommended Grade: 9, 10, 11, 12

- Credits: 1 semester course, 1 credit per semester, 1 credit maximum

- Fulfills the Health and Wellness requirement for all diploma types

3542 Physical Education I (L) (PHYS ED I) Physical Education I focuses on instructional strategies through a planned, sequential, and comprehensive physical education curriculum which provides students with opportunities to actively participate in at least four of the following: team sports; dual sport activities; individual physical activities; outdoor pursuits; self-defense and martial arts; aquatics; gymnastics; and dance, all of which are within the framework of the skills, knowledge and confidence needed by the student for a lifetime of healthful physical activity and fitness. Ongoing assessment includes both written and performance based skill evaluation. Individual assessments may be modified for individuals with disabilities, in addition to those with IEPs and 504 plans (e.g., chronic illnesses, temporary injuries, obesity, etc.). See 511 IAC 7-27-9, 7-27-11.

- Recommended Grade: 9, 10, 11, 12

- Credits: 1 semester course, 1 credit per semester, 1 credit maximum

- Fulfills part of the Physical Education requirement for all diplomas

- Classes are co-educational unless the activity involves bodily contact or groupings based on an objective standard of individual performance developed and applied without regard to gender.

- Adapted physical education must be offered, as needed, in the least restrictive environment and must be based upon an individual assessment.

3544 Physical Education II (L) (PHYS ED II) Physical Education II focuses on instructional strategies through a planned, sequential, and comprehensive physical education curriculum which provides students with opportunities to actively participate in four of the following areas that were not included in Physical Education I: team sports; dual sport activities; individual physical activities; outdoor pursuits; self-defense and martial arts; aquatics; gymnastics; and dance, all of which are within the framework of the skills, knowledge and confidence needed by the student for a lifetime of healthful physical activity and fitness. Ongoing assessment includes both written and performance-based skill evaluation. Individual assessments may be modified for individuals with disabilities, in addition to those with IEPs and 504 plans (e.g., chronic illnesses, temporary injuries, obesity, etc.). See 511 IAC 7-27-9, 7-27-11.

- Recommended Grade: 9, 10, 11, 12

- Required Prerequisites: Physical Education I

- Credits: 1 semester course, 1 credit per semester, 1 credit maximum
- Fulfills part of the Physical Education requirement for all diplomas
- Classes are co-educational unless the activity involves bodily contact or groupings based on an objective standard of individual performance developed and applied without regard to gender.
- Adapted physical education must be offered, as needed, in the least-restrictive environment and must be based upon an individual assessment.

3560 Elective Physical Education (L) (ELECT PE) Elective Physical Education, a course based on selected standards from Indiana’s Academic Standards for Physical Education, identifies what a student should know and be able to do as a result of a quality physical education program. The goal of a physically educated student is to maintain appropriate levels of cardio-respiratory endurance, muscular strength and endurance, flexibility, and body composition necessary for a healthy and productive life. Elective Physical Education promotes lifetime sport and recreational activities and provides an opportunity for an in-depth study in one or more specific areas. A minimum of two of the following activities should be included: team sports; dual sports activities; individual physical activities; outdoor pursuits; self-defense and martial arts; aquatics; gymnastics; and dance. This course includes the study of physical development 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. Ongoing assessment includes both written and performance-based skill evaluation. Individual assessments may be modified for individuals with disabilities, in addition to those with IEPs and 504 plans (e.g., chronic illnesses, temporary injuries, obesity, etc.). See 511 IAC 7-27-9, 7-27-11. 164 Indiana Department of Education 2021-2022 High School Course Titles and Descriptions

- Recommended Grade: 10, 11, 12
- Recommended Prerequisites: Physical Education I and II
- Credits: 1 credit per semester, maximum of 8 credits
- Counts as an elective requirement for all diplomas
- The nature of this course allows for successive semesters of instruction provided defined proficiencies and content standards are utilized.
- Classes are co-educational unless the activity involves bodily contact or groupings based on an objective standard of individual performance developed and applied without regard to gender.

HEALTH SCIENCES

Health Sciences Certified Nursing Aide (CNA) Pre- Nursing*			
Principles	CTE Concentrator A	CTE Concentrator B	Pathway Capstone
7168- Principles of Healthcare	5274- Medical Terminology	7166- Healthcare Specialist CNA	7255- Healthcare Specialist Capstone

7168 Principles of Healthcare PRIN HLCR Principles of Healthcare content includes skills common to specific health career topics such as patient nursing care, dental care, animal care, medical laboratory, public health, and an introduction to healthcare systems. Lab experiences are organized and planned around the activities associated with the student’s career objectives.

- Recommended Grade(s): 9, 10, 11
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

5274 Medical Terminology MED TERMS Medical Terminology prepares students with language skills necessary for effective, independent use of health and medical reference materials. It includes the study of health and medical abbreviations, symbols, and Greek and Latin word part meanings, all taught within the context of body systems. This course builds skills in pronouncing, spelling, and defining new words encountered in verbal and written information in the healthcare industry. Students have the opportunity to acquire essential skills for accurate and logical communication, and interpretation of medical records. Emphasis is on forming a foundation of a medical vocabulary including; appropriate and accurate meaning, spelling, and pronunciation of medical terms, and abbreviations, signs, and symbols.

- Recommended Grade(s): 11, 12
- Required Prerequisites: none
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, maximum of 2 credits
- Counts as a directed elective or elective for all diplomas

7166 Healthcare Specialist: CNA HC SPEC CNA The Healthcare Specialist: CNA prepares individuals desiring to work as nursing assistants with the knowledge, skills and attitudes essential for providing basic care in extended care facilities, hospitals and home health agencies under the direction of licensed nurses. The course will introduce students to the disease process and aspects of caring for a long-term care resident with dementia. Individuals who successfully complete this course are eligible to apply to sit for the Indiana State Department of Health (ISDH) certification exam for nursing assistants. This course meets the minimum standards set forth by the ISDH for Certified Nursing Assistant training and for health care workers in long-term care facilities.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Healthcare
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7255 Healthcare Specialist Capstone HC SPEC CAP The capstone course will provide Healthcare students acquire additional knowledge and skills necessary to work in a variety of health care settings beyond a long term care facility, including hospitals, doctor’s offices and clinics. Students can accomplish this goal by completing coursework that will cover topics such as Medical Law and Ethics, Electronic Health Records, and/or Behavioral

Health. Schools may offer additional healthcare certifications such as the Certified Clinical Medical Assistant or Phlebotomy along with the coursework or in place of the coursework.

- Recommended Grade(s): 11, 12

- Required Prerequisites: Principles of Healthcare; Medical Terminology; Healthcare Specialist: CNA, EMT or Certified Clinical Medical Assistant (CCMA)

- Credits: 2 semester course, 2 semester required, 1-3 credits per semester, 6 credits max

- Counts as a Directed Elective or Elective for all diplomas

Information Technology

Information Technology Information Technology Operations			
Principles	CTE Concentrator A	CTE Concentrator B	Pathway Capstone
7183- Principles of Computing	7180- Information Technology Fundamentals	7181- Networking and Cybersecurity Operations	7249- Cybersecurity Operations Capstone

Information Technology Software Development			
Principles	CTE Concentrator A	CTE Concentrator B	Pathway Capstone
7183- Principles of Computing	7185- Website and Database Development	7184- Software Development	7253-Software Development Capstone

7183 Principles of Computing PRIN COMP INFO Principles of Computing provides students the opportunity to explore how computers can be used in a wide variety of settings. The course will begin by exploring trends of computing and the necessary skills to implement information systems. Topics include operating systems, database technology, cybersecurity, cloud implementations and other concepts associated with applying the principles of good information management to the organization. Students will also have the opportunity to utilize basic programming skills to develop scripts designed to solve problems. Students will learn about algorithms, logic development and flowcharting.

- Recommended Grade(s): 9, 10, 11
- Required Prerequisites: none •Recommended Prerequisites: Introduction to Computer Science; Completed or Co-Enrolled in Algebra I
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas 7180 Information Technology Fundamental

7180 Information Technology Fundamentals INFO TECH FUN Information Technology Fundamentals provides the necessary competencies required for an entry-level Information Technology professional. Students will have the knowledge required to assemble components based on customer requirements, install, configure and maintain devices/software for end users, understand the basics of networking and security, properly and safely diagnose, resolve and document common hardware and software issues while applying troubleshooting skills. Students will also learn appropriate customer support, understand the basics of virtualization, desktop imaging, and deployment. This course should also prepare students for the CompTia A+ Certification Exam.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Computing
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7181 Networking and Cybersecurity Operations INFO TEC SUP SER Advanced Information Technology will provide students with the fundamental concepts in networking and cybersecurity. Students are introduced to the principles and concepts of computer networking, covering the architecture, components, and operations of routers and switches in a small network. Students learn how to configure a router and a switch for basic functionality. Students will be able to troubleshoot routers and switches and resolve common issues. The students will also explore the field of Cyber Security/Information Assurance focusing on the technical and managerial aspects of the

discipline. Students will be introduced to the basic terminology, concepts, and best practices of computer/network security and the roles and responsibilities of management/security personnel. The students will learn the technologies used and techniques involved in creating a secure computer networking environment including authentication and the types of attacks against an organization.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Computing; Information Technology Fundamentals
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7249 IT Operations: Cybersecurity Operations Capstone CYBER OPER CAP Cybersecurity Operations Capstone course introduces the core security concepts and skills needed to monitor, detect, analyze and respond to cybercrime, cyberespionage, insider threats, advanced persistent threats, regulatory requirements, and other cybersecurity issues facing organizations. It emphasizes the practical application of the skills needed to maintain and ensure security operational readiness of secure networked systems through an in-depth coverage of network protocols and ethical hacking. Through hands-on instruction students will be prepared to interact with TCP/IP on the vast majority of networks in use today and learn threats and defense mechanisms. The skills developed in the curriculum prepares students for a career in the rapidly growing area of cybersecurity operations.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Principles of Computing; Information Technology Fundamentals; Networking and Cybersecurity Operations
- Counts as a Directed Elective or Elective for all diplomas

7185 Website and Database Development WEB DATA DEV Website and Database Development will provide students a basic understanding of the essential Web and Database skills and business practices that directly relate to Internet technologies used in Web site and Database design and development. Students will learn to develop Web sites using Hypertext Markup Language (HTML) and Cascading Style Sheets (CSS). Additionally students will be introduced to the basic concepts of databases including types of databases, general database environments, database design, normalization and development of tables, queries, reports, and applications. Students will be familiarized with the use of ANSI Standard Structured Query Language. Students will be introduced to data concepts such as data warehousing, data mining, and BIG Data. Students will develop a business application using database software such as Microsoft Access.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Computing
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7184 Software Development SOFT DEV Software Development introduces students to concepts and practices of programming languages and software development. Students are introduced to algorithms and development tools used to document/implement computer logic. Discusses the history of software development, the different types of programming such as real time processing, web/database applications, and different program development environments. Concepts will be applied using different programming languages, and students will develop and test working programs in an integrated system.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Computing
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7253 Software Development Capstone SW DEV CAP Software Development Capstone provides a basic

understanding of the fundamental concepts involved when using an object oriented programming language. The emphasis is on logical program design using a modular approach involving task-oriented program functions. Object Oriented concepts such as methods, attributes, inheritance, exception handling, and polymorphism are utilized. Applications are developed using these concepts and include developing a graphical user interface, selecting forms and controls, assigning properties and writing code. Students will also build upon their web design experiences in previous courses by taking an in-depth look into client- and server-side scripting aspects including Javascript and PHP: hypertext preprocessor along with other scripting tools.

- Recommended Grade(s): 11, 12

- Required Prerequisites: Principles of Computing; Website and Database Development; Software Development

- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum

- Counts as a Directed Elective or Elective for all diplomas

LANGUAGE ARTS

1002 English 9 (ENG 9) English 9, an integrated English course based on the Indiana Academic Standards for English/Language Arts in Grades 9-10, is a study of language, literature, composition, and oral communication, focusing on literature within an appropriate level of complexity for this grade band. Students use literary interpretation, analysis, comparisons, and evaluation to read and respond to representative works of historical or cultural significance in classic and contemporary literature balanced with nonfiction. 61 Indiana Department of Education 2021-2022 High School Course Titles and Descriptions Students write responses to literature, expository (informative), narrative, and argumentative/persuasive compositions, and sustained research assignments. Students deliver grade appropriate oral presentations with attention to audience and purpose and access, analyze, and evaluate online information.

- Recommended Grade: 9
- Credits: 2 semester course, 1 credit per semester
- Fulfills an English/Language Arts requirement for all diplomas

1004 English 10 (ENG 10) English 10, an integrated English course based on the Indiana Academic Standards for English/Language Arts in Grades 9- 10, is a study of language, literature, composition, and oral communication, focusing on literature with an appropriate level of complexity for this grade band. Students use literary interpretation, analysis, comparisons, and evaluation to read and respond to representative works of historical or cultural significance in classic and contemporary literature balanced with nonfiction. Students write responses to literature, expository (informative) and argumentative/persuasive compositions, and sustained research assignments. Students deliver grade-appropriate oral presentations with attention to audience and purpose and access, analyze, and evaluate online information.

- Recommended Grade: 10, 11
- Recommended Prerequisites: English 9 or teacher recommendation
- Credits: 2 semester course, 1 credit per semester
- Fulfills an English/Language Arts requirement for all diplomas

1006 English 11 (ENG 11) English 11, an integrated English course based on the Indiana Academic Standards for English/Language Arts in Grades 11-12, is a study of language, literature, composition, and oral communication focusing on literature with an appropriate level of complexity for this grade band. Students use literary interpretation, analysis, comparisons, and evaluation to read and respond to representative works of historical or cultural significance appropriate in classic and contemporary literature balanced with nonfiction. Students write narratives, responses to literature, academic essays (e.g. analytical, persuasive, expository, summary), and more sustained research assignments incorporating visual information in the form of pictures, graphs, charts and tables. Students write and deliver grade appropriate multimedia presentations and access, analyze, and evaluate online information.

- Recommended Grade: 11
- Recommended Prerequisites: English 9 and English 10 or teacher recommendation
- Credits: 2 semester course, 1 credit per semester
- Fulfills an English/Language Arts requirement for all diplomas

1008 English 12 (ENG 12) English 12, an integrated English course based on the Indiana Academic Standards for English/Language Arts for Grades 11- 12, is a study of language, literature, composition, and oral communication focusing on an exploration of point of view or perspective across a wide variety of genres. Students use literary interpretation, analysis, comparisons, and evaluation to read and respond to representative works of historical or cultural significance in classic and contemporary literature balanced with nonfiction. Students write narratives,

responses to literature, academic essays (e.g. analytical, persuasive, expository, summary), and more sustained research assignments incorporating visual information in the form of pictures, graphs, charts, and tables. Students write and deliver grade-appropriate multimedia presentations and access, analyze, and evaluate online information.

- Recommended Grade: 12
- Recommended Prerequisites: English 9, English 10, and English 11 or teacher recommendation
- Credits: 2 semester course, 1 credit per semester
- Fulfills an English/Language Arts requirement for all diplomas

1056 AP English Language and Composition (LNG/COMP AP) AP English Language and Composition is a course based on the content established and copyrighted by the College Board. The course is not intended to be used as a dual credit course. The course focuses on the development and revision of evidence-based analytic and argumentative writing and the rhetorical analysis of nonfiction texts. The course aligns to an introductory college-level rhetoric and writing curriculum, which requires students to develop evidence-based analytic and argumentative essays that proceed through several stages or drafts. Students evaluate, synthesize, and cite research to support their arguments. Throughout the course, students develop a personal style by making appropriate grammatical choices. Additionally, students read and analyze the rhetorical elements and their effects in non-fiction texts, including graphic images as forms of text, from many disciplines and historical periods. There is no prescribed sequence of study.

- Recommended Grade: 11, 12 (College Board does not designate when this course should be offered).
- Recommended Prerequisites: English 9 and English 10 or teacher recommendation; Students should be able to read and comprehend college-level texts and apply the conventions of standard written English in their writing.
- Credits: 2 semester course, 1 credit per semester
- Fulfills an English/Language Arts requirement for grades 11 or 12 for all diplomas

1098 Advanced Composition (ADV COMP) (IU-W131) Advanced Composition, a course based on the Indiana Academic Standards for English/Language Arts, is a study and application of the rhetorical writing strategies of exposition and persuasion. Students write expository critiques of nonfiction selections, literary criticism of fiction selections, persuasive compositions, and research reports in addition to other appropriate writing tasks. Course can be offered in conjunction with a literature course, or schools may embed Indiana Academic Standards for English/Language Arts reading standards within the curriculum.

- Recommended Grade: 11, 12
- Recommended Prerequisites: English 9, English 10, Composition, or teacher recommendation
- Credits: 1 or 2 semester course, 1 credit per semester
- Fulfills an English/Language Arts requirement for all diplomas

1078 Advanced Speech and Communication (ADV SPEECH) Advanced Speech and Communication, a course based on the Indiana Academic Standards for English/Language Arts and emphasizing the High School Speech and Communication Standards, is the study and application of skills in listening, oral interpretation, media communications, research methods, and oral debate. Students deliver different types of oral and multimedia presentations, including speeches to inform, to motivate, to entertain, and to persuade through the use of impromptu, extemporaneous, memorized, or manuscript delivery.

- Recommended Grade: 10, 11, 12
- Recommended Prerequisites: Speech or teacher recommendation
- Credits: 1 or 2 semester course, 1 credit per semester, 2 credits maximum
- Fulfills an English/Language Arts requirement for all diploma

1092 Creative Writing (CREAT WRIT) Creative Writing, a course based on the Indiana Academic Standards for English/Language Arts, is a study and application of the rhetorical writing strategies for prose and poetry. Using the

writing process, students demonstrate a command of vocabulary, the nuances of language and vocabulary, English language conventions, an awareness of the audience, the purposes for writing, and the style of their own writing. Course can be offered in conjunction with a literature course, or schools may embed Indiana Academic Standards for English/Language Arts reading standards within the curriculum.

- Recommended Grade: 11, 12
- Recommended Prerequisites: English 9, English 10, or teacher recommendation
- Credits: 1 semester course, 1 credit per semester
- Fulfills an English/Language Arts requirement for all diplomas

1034 Film Literature (FILM LIT) Film Literature, a course based on the Indiana Academic Standards for English/Language Arts, is a study of how literature is adapted for film or media and includes role playing as film directors for selected screen scenes. Students read about the history of film, the reflection or influence of film on the culture, and issues of interpretation, production and adaptation. Students examine the visual interpretation of literary techniques and auditory language in film and the limitations or special capacities of film versus text to present a literary work. Students analyze how films portray the human condition and the roles of men and women and the various ethnic or cultural minorities in the past and present. Courses can be offered in conjunction with a composition course, or schools may embed Indiana Academic Standards for English/Language Arts writing standards within the curriculum.

- Recommended Grade: 11, 12
- Recommended Prerequisites: English 9, English 10, or teacher recommendation
- Credits: 1 semester course, 1 credit per semester
- Fulfills an English/Language Arts requirement for all diplomas

1124 Literary Interpretation ACP (IU L202) is a dual credit course through Indiana University. This course develops critical skills essential to participation in the interpretive process. Through class discussion and focused writing assignments, introduces the premises and motives of literary analysis and critical methods associated with historical, generic, and/or cultural concerns.

The specific content of this course is best described as follows:

Goals:

- To provide readers with fresh understanding of the basic elements of literature as a tool for understanding the major literary genres, including plot, point of view, characters, setting, and more.
- To help students discover the academic and sociological value in reading to more fully understand literature in all of its genres, including poetry, short stories, the novel, and drama.
- To develop students' close reading skills as fuel for a defense of an arguable claim.
- To introduce and then to develop students' ability to generate the elements of argument, including issues, claims, evidence, audience, and warrants.
- To enable students to make useful comparisons within the same piece of literature or in that of other literary works.
- To demonstrate to students the effects of secondary elements to the context of the major literary genres, including author's life, era, culture
- Recommended Prerequisites: W131

1042 Novels (NOVELS) Novels, a course based on the Indiana Academic Standards for English/Language Arts, is a study of the distinct features of the novel, such as narrative and fictional elements of setting, conflict, climax, and resolution, and may be organized by historical periods, themes, or authors. Students examine novels of a given period, such as Victorian, the Modern Period, or Contemporary Literature, and what distinguishes novels from short stories, epics, romances, biographies, science fiction, and others. Students analyze novels by various important authors from the past and present or sets of novels from a specific era or across several eras. Course can

be offered in conjunction with a composition course, or schools may embed Indiana Academic Standards for English/Language Arts writing standards within the curriculum.

- Recommended Grade: 11, 12
- Recommended Prerequisites: English 9, English 10, or teacher recommendation
- Credits: 1 semester course, 1 credit per semester
- Fulfills an English/Language Arts requirement for all diplomas

1070 Debate (DEBATE) Debate, a course based on the Indiana Academic Standards for English/Language Arts, is the study and application of the basic principles of debate involving support for the basic types of arguments (induction, deduction, causation) and debate strategies (affirmative or negative argument construction and extension, case development, refutation or rebuttal of argument claims and evidence, and persuasive speaking).

- Recommended Grade: 11, 12
- Recommended Prerequisites: Speech or teacher recommendation
- Credits: 1 or 2 semester course, 1 credit per semester. The nature of this course allows for the second semester of instruction at an advanced level.
- 1 credit fulfills an English/Language Arts requirement for all diplomas, additional credits fulfill elective credit for all diplomas

1044 Poetry (POETRY) Poetry, a course based on the Indiana Academic Standards for English/Language Arts, is a study of poetic works, the interpretation of poetry, and the variety of structures, devices, and themes that differentiate one type of poetry from another. Students examine a wide variety of major poetic works from the English-speaking world and English translations of important works from the non-English-speaking world. Students analyze the impact of aural devices, such as meter, alliteration, assonance, and rhyme, on the overall interpretation of a poem and how poetry is a form of literary expression that has prevailed through the ages. Courses can be offered in conjunction with a composition course, or schools may embed Indiana Academic Standards for English/Language Arts writing standards within the curriculum.

- Recommended Grade: 11, 12
- Recommended Prerequisites: English 9, English 10, or teacher recommendation
- Credits: 1 semester course, 1 credit per semester
- Fulfills an English/Language Arts requirement for all diplomas

1086 Student Media (STDNT MEDIA) Student Media, a course based on the High School Journalism Standards and the Student Media Standards, is the continuation of the study of Journalism. Students demonstrate their ability to do journalistic writing and design for high school media, including school newspapers, yearbooks, and a variety of other media formats. Students follow the ethical principles and legal boundaries that guide scholastic journalism. Students express themselves publicly with meaning and clarity for the purpose of informing, entertaining, or persuading. Students work on high school media staff so that they may prepare themselves for career paths in journalism, communications, writing, or related fields.

- Recommended Grade: 9, 10, 11, 12
- Required Prerequisites: none
- Recommended Prerequisites: Journalism, Digital Media, or teacher recommendation
- Credits: 1 semester course, 1 credit per semester. The nature of this course allows for successive semesters of instruction at an advanced level or in different media types where defined proficiencies and content standards are utilized.
- Counts as a directed elective or elective for all diplomas
- Fulfills the Fine Arts requirement for the Core 40 with Academic Honors.
- NOTE: This is the designated School Media course, including newspaper and yearbook.

MATHEMATICS

2520 Algebra I (ALG I) Algebra I formalizes and extends the mathematics students learned in the middle grades. Algebra I is made up of six strands: Real Numbers and Expressions; Functions; Linear Equations, Inequalities, and Functions; Systems of Equations and Inequalities; Quadratic and Exponential Equations and Functions; and Data Analysis and Statistics. These 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. Students will also engage in methods for analyzing, solving, and using quadratic functions. The eight Process Standards for Mathematics apply throughout the course. Together with the content standards, the Process Standards prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations.

- Recommended Grade: 9, 10, 11, 12

- 2 semester course, 1 credit per semester

- Fulfills a Mathematics course requirement for all diplomas

- Fulfills the Algebra I/Integrated Mathematics I requirement for all diplomas

- Students pursuing Core 40, Core 40 with Academics Honors, or Core 40 with Technical Honors diploma should receive credit for Algebra I by the end of Grade 9

2522 Algebra II (ALG II) 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. Algebra II is made up of seven strands: Complex Numbers and Expressions; Functions; Systems of Equations; Quadratic Equations and Functions; Exponential & Logarithmic Equations and Functions; Polynomial, Rational, and Other Equations and Functions; and Data Analysis, Statistics, and Probability. The eight Process Standards for Mathematics apply throughout the course. Together with the content standards, the Process Standards prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations.

- Recommended Grade: 9, 10, 11, 12

- Recommended Prerequisites: Algebra I

- 2 semester course, 1 credit per semester

- Fulfills a Mathematics course requirement for all diplomas

- Fulfills the Algebra II/Integrated Mathematics III requirement for all diplomas

2532 Geometry (GEOM) 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. Seven critical areas comprise the Geometry course: Logic and Proofs; Points, Lines, Angles, and Planes; Triangles; Quadrilaterals and Other Polygons; Circles; Transformations; and Three-dimensional Solids. The eight Process Standards for Mathematics apply throughout the course. Together with the content standards, the Process Standards prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations.

- Recommended Grade: 9, 10, 11, 12

- Recommended Prerequisites: Algebra I

- 2 semester course, 1 credit per semester

- Fulfills a Mathematics course requirement for all diplomas

- Fulfills the Geometry/Integrated Mathematics II requirement for the Core 40, Core 40 with Academic Honors and Core 40 with Technical Honors diplomas

4512 Business Math (BUS MATH) Business Math is a course designed to prepare students for roles as entrepreneurs, producers, and business leaders by developing abilities and skills that are part of any business environment. A solid understanding of math including algebra, basic geometry, statistics, and probability provides the necessary foundation for students interested in careers in business and skilled trade areas. The content includes mathematical operations related to accounting, banking and finance, marketing, and management. Instructional strategies should include simulations, guest speakers, tours, Internet research, and business experiences.

- Recommended Grade: 10, 11
- Required Prerequisites: Algebra I
- Credits: 1 to 2 semester course, 1 credit per semester, 2 credits maximum
- Counts as an elective or directed elective for all diplomas
- Fulfills a Mathematics requirement for the General Diploma or Certificate of Completion only.
- Qualifies as a quantitative reasoning course

2564 Pre-Calculus: Algebra (PRECAL AL) (PFW MA 15300) Pre-Calculus: Algebra extends the foundations of algebra and functions developed in previous courses to new functions, including exponential and logarithmic functions, and to sequences and series. The course provides students with the skills and understandings that are necessary for advanced manipulation of angles and measurement. Pre-Calculus: Algebra is made up of five strands: Functions; Quadratic, Polynomial, and Rational Equations and Functions; Exponential and Logarithmic Functions; Sequences and Series; and Conics. The course is designed for students who expect math to be a major component of their future college and career experiences, and as such it is designed to provide students with strong foundations for calculus and other higher-level math courses. The eight Process Standards for Mathematics apply throughout the course. Together with the content standards, the Process Standards prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations. 150 Indiana Department of Education 2021-2022 High School Course Titles and Descriptions

- Recommended Grade: 9, 10, 11, 12
- Recommended Prerequisites: Algebra II and Geometry or Integrated Mathematics III
- 1 semester course, 1 credit per semester
- Fulfills a Mathematics course requirement for all diplomas

2566 Pre-Calculus: Trigonometry (PRECAL TRIG) (PFW MA 15400) Pre-Calculus: Trigonometry provides students with the skills and understandings that are necessary for advanced manipulation of angles and measurement. Trigonometry provides the foundation for common periodic functions that are encountered in many disciplines, including music, engineering, medicine, finance, and nearly all other STEM disciplines. Trigonometry consists of six strands: Unit Circle; Triangles; Periodic Functions; Identities; Polar Coordinates and Complex Numbers; and Vectors. Students will advance their understanding of imaginary numbers through an investigation of complex numbers and polar coordinates. A strong understanding of complex and imaginary numbers is a necessity for fields such as engineering and computer programming. The eight Process Standards for Mathematics apply throughout the course. Together with the content standards, the Process Standards prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations.

- Recommended Grade: 9, 10, 11, 12
- Recommended Prerequisites: Algebra II and Geometry or Integrated Mathematics III
- 1 semester course, 1 credit per semester
- Fulfills a Mathematics course requirement for all diplomas

2527 Calculus (CALC) Calculus expands a student's knowledge of topics like functions, graphs, limits, derivatives, and integrals. Additionally, students will review algebra and functions, modeling, trigonometry, etc.

Calculus is made up of five strands: Limits and Continuity; Differentiation; Applications of Derivatives; Integrals; and Applications of Integrals. The eight Process Standards for Mathematics apply throughout the course. Together with the content standards, the Process Standards prescribe that students experience mathematics as a coherent, useful, and logical subject that makes use of their ability to make sense of problem situations.

- Recommended Grade: 11, 12
- Recommended Prerequisites: Pre-Calculus: Algebra and Pre-Calculus: Trigonometry
- 2 semester course, 1 credit per semester
- Fulfills a Mathematics course requirement for all diplomas

2562 AP Calculus AB (CALC AB AP) AP Calculus AB is a course based on the content established and copyrighted by the College Board. The course is not intended to be used as a dual credit course. AP Calculus AB is equivalent to a first semester college calculus course devoted to topics in differential and integral calculus. This course covers topics in these areas, including concepts and skills of limits, derivatives, definite integrals, and the Fundamental Theorem of Calculus. The course teaches students to approach calculus concepts and problems when 12 Indiana Department of Education 2021-2022 High School Course Titles and Descriptions are represented graphically, numerically, analytically, and verbally, and to make connections amongst these representations. Students learn how to use technology to help solve problems, experiment, interpret results, and support conclusions.

- Recommended Grade: 11,12
- Required Prerequisites: Pre-Calculus: Algebra
- Credits: 2 semester course, 1 credit per semester
- Counts as a Mathematics Course for all diplomas
- Qualifies as a quantitative reasoning course

MULTIDISCIPLINARY

0500 Basic Skills Development (BAS SKLS) Basic Skills Development is a multidisciplinary course that provides students continuing opportunities to develop basic skills including: (1) reading, (2) writing, (3) listening, (4) speaking, (5) mathematical computation, (6) note taking, (7) study and organizational skills, and (8) problem-solving skills, which are essential for high school course work achievement. Determination of the skills to be emphasized in this course is based on Indiana's standards, individual school corporation general curriculum plans, and the student's Individualized Education Programs (IEP) or other individualized plans. Skills selected for developmental work provide students with the ability to continue to learn in a range of different life situations.

- Recommended Grade: 9, 10, 11, 12
- Credits: 1 credit per semester up to 8 semesters, 8 credits maximum
- Counts as an elective for all diplomas

0522 Career Information and Exploration (CARR INFO) Career Information and Exploration provides students with opportunities to learn about themselves and about various traditional and nontraditional occupations and careers. Students also gain an awareness of the type of occupational preparation or training needed for various occupations and careers. Students develop skills in: (1) employability, (2) understanding the economic process, and (3) career decision making and planning. Opportunities are provided for students to observe and participate in various job situations through opportunities such as field trips, internships, mock interviews, and guest speakers. Resume development experience and career-related testing are also provided to students.

- Recommended Grade: 9, 10
- Recommended Prerequisites: Preparing for College and Careers
- Credits: 1 semester course, 1 credit per semester
- Counts as a directed elective or elective for all diplomas
- The nature of this course allows for successive semesters of instruction provided progressively advanced proficiencies and content standards are utilized. 0522 Applied Career Information and Exploration

0509 Jobs for America's Graduates (JAG) Jobs for America's Graduates (JAG) is a state-based, national non-profit organization dedicated to preventing dropouts among young people who are most at-risk. JAG's mission is to keep young people in school through graduation and provide work-based learning experiences that will lead to career advancement opportunities or to enroll in a postsecondary institution that leads to a rewarding career. 161 Indiana Department of Education 2021-2022 High School Course Titles and Descriptions JAG students receive adult mentoring while in school and one year of follow-up counseling after graduation. The JAG program is funded through grants provided by the Indiana Department of Workforce Development.

- Recommended Grade: 11, 12
- Credits: 2 semester course, 1 credits per semester, 4 credits maximum
- Counts as an elective for all diplomas

RADIO TELEVISION

Arts, AV Tech, and Communications Radio and Television			
Principles	CTE Concentrator A	CTE Concentrator B	Pathway Capstone
7139- Principles of Radio and Television	7306- Audio and Video Production Essentials	7307- Mass Media Production	7308- Radio and Television Broadcasting Capstone

7139 Principles of Broadcasting PRIN BROAD The purpose of the Principles of Broadcasting course is to provide entry-level fundamental skills for students who wish to seek or pursue opportunities in the field of broadcasting or mass media. Students will explore the technical aspects of audio and sound design for radio production and distribution, as well as, the technical aspects of video production and distribution.

- Recommended Grade(s): 9, 10, 11
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

7306 Audio and Video Production Essentials AUD VID PROD Audio and Video Production Essentials provides an in-depth study on audio and video production techniques for radio, television, and digital technologies. Students will learn skills necessary for audio production and on-air work used in radio and other digital formats. Additionally, experience will be gained in the development of the video production process; including skills in message development, directing, camera, video switcher, and character generator operations.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Broadcasting
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

7307 Mass Media Production MASS MED PROD Mass Media Production will focus on the study of theory and practice in the voice and visual aspects of radio and television performance. In addition, this course introduces the skills used to acquire and deliver news stories in a digital media format. Students will learn how to research issues and events, interview news sources, interact with law enforcement and government officials, along with learning to write in a comprehensive news style.

- Recommended Grade(s): 10, 11, 12
- Required Prerequisites: Principles of Broadcasting; Audio and Video Production Essentials
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

7308 Radio & TV Broadcasting Capstone RAD TV BROAD CAP This course will cover a variety of domains further building on skills in video production, and broadcast industry practices specific to radio, television, and digital media. Attention will be given to cross-industry synergies, emerging technologies, and the global market for media. Students are highly encouraged to do a video newscast or radio practicum to gain real world experience. In most cases this practicum may be completed through a school-based enterprise.

- Recommended Grade(s): 11, 12 247 Indiana Department of Education High School Course Titles and Descriptions: 2023-2024

- Required Prerequisites: Principles of Broadcasting; Audio and Video Production Essentials; Mass Media Production
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a Directed Elective or Elective for all diplomas

RESPONSE TO INSTRUCTION

1120 Developmental Reading (DEV READING) Developmental Reading is a supplemental course that provides students with individualized instruction designed to support success in completing coursework aligned with the Indiana Academic Standards for English/Language Arts focusing on the Reading Standards for Literature and Nonfiction. All students should be concurrently enrolled in an English course in which class work will address all of the Indiana Academic Standards.

- Recommended Grade: 9, 10, 11, 12
- Credits: 1 semester course, 1 credit per semester, 8 credits maximum. This course allows for successive semesters of instruction for students who need additional support in vocabulary development and reading comprehension.
- Counts as an elective for all diplomas

1010 Language Arts Lab (LANG LAB) Language Arts Lab is a supplemental course that provides students with individualized or small group instruction designed to support success in completing coursework aligned with the Indiana Academic Standards for English/Language Arts focusing on the writing standards. All students should be concurrently enrolled in an English course in which class work will address all of the Indiana Academic Standards.

- Recommended Grade: 9, 10, 11, 12
- Credits: 1 to 8 credits. This course allows for successive semesters of instruction for students who need additional support in any or all aspects of the writing standards.
- Counts as an elective for all diplomas

2516 Algebra I Lab (ALG I LAB) Algebra I Lab is a mathematics support course for Algebra I. Algebra I Lab is taken while students are concurrently enrolled in Algebra I. This course provides students with additional time to build the foundations necessary for high school math courses, while concurrently having access to rigorous, grade-level appropriate courses. The five critical areas of Algebra I Lab align with the critical areas of Algebra I: Relationships between Quantities and Reasoning with Equations; Linear and Exponential Relationships; Descriptive Statistics; Expressions and Equations; and Quadratic Functions and Modeling. However, whereas Algebra I contains exclusively grade-level content, Algebra I Lab combines standards from high school courses with foundational standards from the middle grades.

- Recommended Grade: 9, 10, 11, 12
- 2 semester course, 1 credit per semester
- Fulfills a Mathematics course requirement for the General Diploma only or as an elective for the Core 40, Core 40 with Academic Honors and Core 40 with Technical Honors diplomas
- Algebra I Lab is designed as a support course for Algebra I. As such, a student taking Algebra I Lab must also be enrolled in Algebra I during the same academic year.

2560 Mathematics Lab (MATH LAB) Mathematics Lab provides students with individualized instruction designed to support success in completing mathematics coursework aligned with Indiana's Academic Standards for Mathematics. Mathematics Lab is to be taken in conjunction with a Core 40 mathematics course, and the content of Mathematics Lab should be tightly aligned to the content of its corresponding course. Mathematics Lab should not be offered in conjunction with Algebra I or Integrated Mathematics I; instead, schools should offer Algebra I Lab or Integrated Mathematics I Lab to provide students with rigorous support for these courses.

- Recommended Grade: 9, 10, 11, 12
- 1 semester course, 1 credit per semester, 8 credits maximum
- Fulfills an elective course requirement for all diplomas
- Clarifying information can be appended to the end of the course title to denote the content covered in each course.

SCIENCE

Health Sciences Biomedical Sciences			
Principles	CTE Concentrator A	CTE Concentrator B	Pathway Capstone
5218- Principles of Biomedical Sciences	5216- Human Body Systems	5217- Medical Interventions	5219- Biomedical Innovations

3024 Biology I (L) (BIO I) Biology I is a course based on the following core topics: cellular structure and function, matter cycles and energy transfer; interdependence; inheritance and variation in traits; evolution. 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.

- Recommended Grade: 9, 10
- Credits: 2 semester course, 1 credit per semester
- Fulfills the Biology requirement for all diplomas

3090 Advanced Science, College Credit (ADV SCI CC) (IU-L100) Advanced Science, College Credit is a title that covers (1) any science course offered for credit by an accredited post-secondary institution through an adjunct agreement with a secondary school, or (2) any other post-secondary science course offered for dual credit under the provisions of 511 IAC 6-10

- Recommended Grade: 11, 12
- Credits: 1 semester course, 1 credit per semester. May be offered for successive semesters
- Counts as a Science Course for all diplomas
- Courses that use this title are most often those taught through the post-secondary campus, taught either online or in traditional settings or a combination; and taught by higher education faculty.
- Courses that use this title are those that do not meet specific high school standards for a corresponding high school course, as they are standards beyond what is taught in the high school.

3064 Chemistry I (L) (CHEM I) Chemistry I is a course based on the following core topics: properties and states of matter; atomic structure and the Periodic Table; bonding and molecular structure; reactions and stoichiometry; behavior of gasses; thermochemistry; solutions; acids and bases. 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.

- Recommended Grade: 10, 11, 12
- Recommended Prerequisites: Algebra II (can be taken concurrently)
- Credits: 2 semester course, 1 credit per semester
- Fulfills a science (physical) course requirement for all diplomas
- Qualifies as a quantitative reasoning course

3060 AP Chemistry (CHEM AP) AP Chemistry is a course based on the content established and copyrighted by the College Board. The course is not intended to be used as a dual credit course. The content includes: (1) structure of matter: atomic theory and structure, chemical bonding, molecular models, nuclear chemistry; (2) states of matter:

gasses, liquids and solids, solutions; and (3) reactions: reaction types, stoichiometry, equilibrium, kinetics and thermodynamics.

- Recommended Grade: 12
- Recommended Prerequisites: Chemistry I, Algebra II, Pre-Calculus Algebra / Pre-Calculus Trigonometry
- Credits: 2 semester course, 1 credit per semester 13 Indiana Department of Education 2021-2022 High School Course Titles and Descriptions
- Counts as a Science Course for all diplomas
- Qualifies as a quantitative reasoning course

3044 Earth and Space Science I (L) (EAS SCI I) Earth and Space Science I is a course focused on the following core topics: universe; solar system; Earth cycles and systems; atmosphere and hydrosphere; solid Earth; 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 by evaluating and communicating the results of those investigations according to accepted procedures.

- Recommended Grade: 9, 10, 11, 12
- Credits: 2 semester course, 1 credit per semester
- Counts as an elective for all diplomas
- Fulfills a science course requirement for all diplomas

3010 Environmental Science (L) (ENVSCI) Environmental Science is an interdisciplinary course that integrates biology, earth science, chemistry, and other disciplines. Students enrolled in this course conduct in-depth scientific studies of environmental systems, flow of matter and energy, natural disasters, environmental policies, biodiversity, population, pollution, and natural and anthropogenic resource cycles. Students formulate, design, and carry out laboratory and field investigations as an essential course component. Students completing Environmental Science, acquire the essential tools for understanding the complexities of national and global environmental systems.

- Recommended Grade: 11, 12
- Recommended Prerequisites: Two credits science coursework
- Credits: 2 semester course, 1 credit per semester
- Counts as an elective for all diplomas
- Fulfills a science (life) course requirement for all diplomas

3108 Integrated Chemistry-Physics (L) (ICP) Integrated Chemistry-Physics is a course focused on the following core topics: constant velocity; uniform acceleration; Newton's Laws of motion (one dimension); energy; particle theory of matter; describing substances; representing chemical change; electricity and magnetism; waves; nuclear energy. 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.

- Recommended Grade: 9
- Recommended Prerequisites: Algebra I (may be taken concurrently with this course)
- Credits: 2 semester course, 1 credit per semester
- Counts as an elective for all diplomas
- Fulfills a science (physical) course requirement for all diplomas
- Qualifies as a Quantitative Reasoning course

3084 Physics I (L) (PHYS I) Physics I is a course focused on the following core topics: constant velocity; constant acceleration; forces; energy; linear momentum in one dimension; simple harmonic oscillating systems; mechanical

waves and sound; simple circuit analysis. Instruction should focus on developing student understanding that scientific knowledge is gained from observation of natural phenomena and experimentation, by designing and conducting investigations guided by theory, and by evaluating and communicating the results of those investigations according to accepted procedures.

- Recommended Grade: 9, 10, 11
- Recommended Prerequisites: Algebra I or Algebra II
- Credits: 2 semester course, 1 credit per semester
- Counts as an elective for all diplomas
- Fulfills a science (physical) course requirement for all diplomas
- Qualifies as a Quantitative Reasoning course

3094 Science Tutorial (SCI TUTOR) Science Tutorial provides students with individualized instruction designed to support success in completing Core 40 science coursework for each year that they are enrolled in Core 40 science courses.

- Recommended Grade: 9, 10, 11, 12
- Recommended Prerequisites: This course must be taken concurrently with a Core 40 science course
- Credits: 1 semester course, 1 credit per semester, 8 credits maximum
- Counts as an elective for all diplomas

5218 Principles of Biomedical Sciences (PRIN BIOMED) Principles of the Biomedical Sciences provides an introduction to this field through “hands-on” projects and problems. Student work involves the study of human medicine, research processes and an introduction to bioinformatics. Students investigate the human body systems and various health conditions including heart disease, diabetes, hypercholesterolemia, and infectious diseases. A theme through the course is to determine the factors that led to the death of a fictional person. After determining the factors responsible for the death, the students investigate lifestyle choices and medical treatments that might have prolonged the person’s life. Key biological concepts included in the curriculum are: homeostasis, metabolism, inheritance of traits, feedback systems, and defense against disease. Engineering principles such as the design process, feedback loops, fluid dynamics, and the relationship of structure to function will be included where appropriate. The course is designed to provide an overview of all courses in the Biomedical Sciences program and to lay the scientific foundation necessary for student success in the subsequent courses. NOTE: This course aligns with the PLTW Principles of Biomedical Sciences curriculum.

- Recommended Grade: 9
- Required Prerequisites: Biology I or concurrent enrollment in Biology I is required
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Fulfills a science requirement for all diplomas

5216 Human Body Systems (HUMAN SYST) Human Body Systems is a course designed to engage students in the study of basic human physiology and the care and maintenance required to support the complex systems. Using a focus on human health, students will employ a variety of monitors to examine body systems (respiratory, circulatory, and nervous) at rest and under stress, and observe the interactions between the various body systems. Students will use appropriate software to design and build systems to monitor body functions. NOTE:

- Recommended Grade: 10
- Required Prerequisites: Principles of the Biomedical Sciences
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Fulfills a science requirement for all diplomas

5217 Medical Interventions (MED INTERV) Medical Interventions is a course that studies medical practices including interventions to support humans in treating disease and maintaining health. Using a project-based learning approach, students will investigate various medical interventions that extend and improve quality of life, including gene therapy, pharmacology, surgery, prosthetics, rehabilitation, and supportive care. Students will also study the design and development of various interventions. Lessons will cover the history of organ transplants and gene therapy with additional readings from current scientific literature addressing cutting edge developments. NOTE: This course aligns with the PLTW Medical Interventions curriculum. Use of the PLTW Curriculum may require additional training and membership in the PLTW network.

- Recommended Grade: 11

- Required Prerequisites: Principles of the Biomedical Sciences; and Human Body Systems or Anatomy and Physiology

- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum

- Counts as a directed elective or elective for all diplomas

- Fulfills a science requirement for all diploma types

5219 Biomedical Innovations (BIO INN) Biomedical Innovation is a capstone course designed to give students the opportunity to design innovative solutions for the health challenges of the 21st Century as they work through progressively challenging open-ended problems, addressing topics such as clinical medicine, physiology, biomedical engineering, and public health. Students have the opportunity to work on an independent project and may work with a mentor or advisor from a healthcare or post- secondary industry. Throughout the course, students are expected to present their work to an adult audience that may include representatives from the local business and healthcare community. NOTE: This course aligns with the PLTW Biomedical Innovations curriculum. Use of the PLTW Curriculum may require additional training and membership in the PLTW network.

- Recommended Grade: 12

- Required Prerequisites: Principles of the Biomedical Sciences; and Human Body Systems or Anatomy and Physiology, and Medical Interventions

- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum

- Counts as a directed elective or elective for all diplomas

SOCIAL STUDIES

1512 Current Problems, Issues, and Events (CPIE) Current Problems, Issues, and Events gives students the opportunity to apply investigative and inquiry techniques to the study of significant problems or issues. Students develop competence in (1) recognizing cause and effect relationships, (2) recognizing fallacies in reasoning and propaganda devices, (3) synthesizing knowledge into useful patterns, (4) stating and testing hypotheses, and (5) generalizing based on evidence. Problems or issues selected will have contemporary historical significance and will be studied from the viewpoint of the social science disciplines. Community service programs and internships within the community may be included.

- Credits: 1 semester course, 1 credit per semester. Course may be repeated for credit if the content of the course changes.
- Counts as an elective for all diplomas; fulfills social studies requirement for General Diploma.

1516 Ethnic Studies (ETH STUDIES) Ethnic Studies provides opportunities to broaden students' perspectives concerning lifestyles and cultural patterns of ethnic groups in the United States. This course will either focus on a particular ethnic group or groups, or use a comparative approach to the study of patterns of cultural development, immigration, and assimilation, as well as the contributions of specific ethnic or cultural groups. The course may also include analysis of the political impact of ethnic diversity in the United States.

- Credits: 1 semester course, 1 credit
- Counts as an elective for all diplomas
- Must be offered at least once per school year

1570 Geography and History of the World (GEO-HST WLD) Geography and History of the World is designed to enable students to use geographical tools, skills and historical concepts to deepen their understanding of major global themes including the origin and spread of world religions; exploration; conquest, and imperialism; urbanization; and innovations and revolutions. Geographical and historical skills include forming research questions, acquiring information by investigating a variety of primary and secondary sources, organizing information by creating graphic representations, analyzing information to determine and explain patterns and trends, planning for the future, and documenting and presenting findings orally or in writing. The historical geography concepts used to explore global themes include change over time, origin, diffusion, physical systems, cultural landscapes, and spatial distribution/patterns and interaction/relationships. Students use the knowledge, tools, and skills obtained from this course in order to analyze, evaluate, and make predictions about major global developments. This course is designed to nurture perceptive and responsible citizenship, to encourage and support the development of critical thinking skills and lifelong learning, and to help prepare Indiana students for the 21st Century.

- Credits: 2 semester course, 1 credit per semester
- Counts as a Social Studies requirement for the General Diploma
- Counts as an elective for all diplomas
- Fulfills the Geography History of the World/World History and Civilization graduation requirement for the Core 40, Core 40 with Academic Honors and Core

1518 Indiana Studies (IN STUDIES) Indiana Studies is an integrated course that compares and contrasts state and national developments in the areas of politics, economics, history, and culture. The course uses Indiana history as a basis for understanding current policies, practices, and state legislative procedures. It also includes the study of state and national constitutions from a historical perspective and as a current foundation of government. Examination of individual leaders and their roles in a democratic society will be included, and students will examine the participation of citizens in the political process. Selections from Indiana arts and literature may also

be analyzed for insights into historical events and cultural expressions.

- Credits: 1 semester course, 1 credit per semester
- Counts as an elective for all diplomas
- Fulfills course requirement for General Diploma
- Must be offered at least once per school year

1532 Psychology (PSYCH) Psychology is the scientific study of mental processes and behavior. The course is divided into eight content areas: History and Scientific Method, Biological Basis for Behavior, Development, Cognition, Personality and Assessment, Abnormal Psychology, Socio-Cultural Dimensions of Behavior, and Psychological Thinking. History and Scientific Method explores the history of psychology, the research methods used, and the ethical considerations that must be utilized. Biological Basis for Behavior focuses on the way the brain and nervous system function, including sensation, perception, motivation and emotion. Development analyzes the changes through one's life including the physical, cognitive, emotional, social and moral development. Cognition focuses on learning, memory, information processing, and language development. Personality and Assessment explains the approaches used to explain one's personality and the assessment tools used. Abnormal Psychology explores psychological disorders and the various treatments used for them. Socio-Cultural Dimensions of Behavior covers topics such as conformity, obedience, perceptions, attitudes and influence of the group on the individual. Psychological Thinking explores how to think like a psychologist and expand critical thinking skills needed in the day-to-day life of a psychologist.

- Credits: 1 to 2 semester course, 1 credit per semester
- Counts as an elective for all diplomas
- Fulfills course requirement for General Diploma

1534 Sociology (SOCIOLOGY) Sociology allows students to study human social behavior from a group perspective. The sociological perspective is a method of studying recurring patterns in people's attitudes and actions and how these patterns vary across time, cultures, and in social settings and groups. Students describe the development of sociology as a social science and identify methods of research. Through research methods such as scientific inquiry students examine society, group behavior, and social structures. The influence of culture on group behavior is addressed through institutions such as the family, religion, education, economics, community organizations, government, and political and social groups. The impact of social groups and institutions on group and individual behavior and the changing nature of society will be examined. Influences on group behavior and social problems are included in the course. Students also analyze the role of individuals in the community and social problems in today's world.

- Recommended Grade: 11, 12
- Credits: 1 semester course, 1 credit per semester
- Counts as an elective for all diplomas
- Fulfills course requirement for General Diploma

1548 World History and Civilization (WLD HST/CVL) World History and Civilization 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 the past to the present. Students are also expected to practice and process skills 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.

- Credits: 2 semester course, 1 credit per semester
- Counts as an elective for all diplomas
- Fulfills the Geography History of the World/World History and Civilization graduation requirement for all diplomas

1542 United States History (US HIST) United States History is a two-semester course that builds upon concepts developed in previous studies of U.S. History emphasizes national development from the late nineteenth century into the twenty first century. After reviewing fundamental themes in the early development of the nation, 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 as they relate to life in Indiana and the United States. Students are expected to trace and analyze chronological periods and examine the significant themes and concepts in U.S. History. Students 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.

•Credits: 2 semester course, 1 credit per semester 191 Indiana Department of Education 2021-2022 High School Course Titles and Descriptions

- Fulfills the US History requirement for all diplomas

1574 Advanced Social Sciences, College Credit (ADV SS CC) Advanced Social Sciences, College Credit is a title covering (1) any advanced social sciences courses offered for credit by an accredited post-secondary institution through an adjunct agreement with a secondary school or (2) any other post-secondary social sciences course offered for dual credit under the provisions of 511 IAC 6-10.

•Recommended Grade: 12

•Required Prerequisites: none

•Recommended Prerequisites: United States History or History and World Civilizations

•Credits: 1 semester course, 1 credit per semester. May be offered for successive semesters

•Counts as an Elective for all diplomas

•Courses that use this title are most often those taught through the post-secondary campus, taught either online or in traditional settings or a combination; and taught by higher education faculty.

•Courses that use this title are those that do not meet specific high school standards for a corresponding high school course, as they are standards beyond what is taught in the high school.

1514 Economics (ECON) Economics examines the allocation of resources and their uses for satisfying human needs and wants. The course analyzes economic reasoning and behaviors of consumers, producers, savers, investors, workers, voters, institutions, governments, and societies in making decisions. Students 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. Key elements of the course include the study of scarcity and economic reasoning; supply and demand; market structures; the role of government; national economic performance; the role of financial institutions; economic stabilization; and trade.

•Recommended Grade: 11, 12

•Credits: 1 semester course, 1 credit per semester

•Counts as an elective for all diplomas

•Fulfills the Economics requirement for the Core 40, Core 40 with Academic Honors, Core 40 with Technical Honors and International Baccalaureate diplomas

•Qualifies as a quantitative reasoning course (NOTE: Economics will no longer be considered a quantitative reasoning course beginning with the 2025 cohort.)

•Fulfills a Social Studies requirement for the General Diploma only

1540 United States Government (US GOVT) United States Government 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 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 examine how the United States Constitution protects rights and provides the structure and functions of various levels of government. Analysis of how the United States interacts with other nations and the government's role in world affairs is included in this course. 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, politics, and civic activities and the need for civic and political engagement of citizens in the United States.

- Recommended Grade: 11, 12

- Credits: 1 semester course, 1 credit per semester

- Fulfills Government requirement for all diplomas

- Students are required to take the naturalization test for citizenship per SEA 132 (New 2019- 2020).

- SEA 398 (Spring 2020) states that schools will be required to issue the naturalization test, report results, and post test data results starting in November

1560 AP United States Government and Politics (US GOVT AP) AP United States Government and Politics is a course based on the content established and copyrighted by the College Board. The course is not intended to be used as a dual credit course. AP U.S. Government and Politics provides a college-level, nonpartisan introduction to key political concepts, ideas, institutions, policies, interactions, roles, and behaviors that characterize the constitutional system and political culture of the United States. Students study U.S. foundational documents, Supreme Court decisions, and other texts and visuals to gain an understanding of the relationships and interactions among political institutions, processes, and behavior. They also engage in disciplinary practices that require them to read and interpret data, make comparisons and applications, and develop evidence based arguments. In addition, they complete a political science research or applied civics project.

- Recommended Grade: 11, 12

- Recommended Prerequisites: Students should be able to read a college level textbook and write grammatically correct sentences.

- Credits: 1 to 2 semester course, 1 credit per semester

- Fulfills the Government requirement for all diplomas

1574 Advanced Social Sciences, College Credit: Dual Credit class with Indiana University - POLS-Y103 Introduction to American Politics CASE S&H Introduction to the nature of government and the dynamics of American politics. Origin and nature of the American federal system and its political party base.

SCIENCE, TECHNOLOGY, ENGINEERING, MATH

Science, Technology, Engineering and Math Engineering			
Principles	CTE Concentrator A	CTE Concentrator B	Pathway Capstone
4802 - Introduction to Engineering Design	5644 - Principles of Engineering	5650 - Civil Engineering and Architecture	5698 - Engineering Design and Development

Science, Technology, Engineering and Math Engineering			
Principles	CTE Concentrator A	CTE Concentrator B	Pathway Capstone
4802 -Introduction to Engineering Design	5644 - Principles of Engineering	5538 Digital Electronics	5698-Engineering Design and Development

5610 Industrial Automation and Robotics I (AUTO ROB I) Industrial Automation and Robotics I, will introduce students to design and programming concepts in basic robots that use sensors and actuators to solve specific problems and complete specific tasks. This will include introductory programming autonomous mode. Students will also learn to program a humanoid robot, tethered and in autonomous mode, able to react to specific circumstances and perform human-like tasks when programming is complete. This course will provide fundamentals in industrial robotics basic programming and operations. Students will program an industrial robot through exploration of a teach pendant and use proper programming commands with hands-on utilization of an industrial robot. This course will provide fundamental knowledge and skills in basic lasers, pneumatics, hydraulics, mechanics, basic electronics, and programmable logic controllers along with an understanding of career pathways in this sector.

- Recommended Grade: 11, 12
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a directed elective or elective for all diploma

5612 Industrial Automation and Robotics II (AUTO ROB II) Industrial Automation and Robotics II, focuses on industrial robots, programming PLC's, automating cells, advanced programming, and designing/building task-oriented robots. Students will engage in active learning, critical thinking, and problem solving through advanced robotic procedures and processes. Students will learn industrial robotic programming languages, as well as strategies for improving efficiency through automation. Students will study basic computer numerical controlled (CNC) machining and will combine automation and CNC machining to perform common industrial tasks. They will also apply knowledge to real world situations to create working solutions.

- Recommended Grade: 11, 12
- Required Prerequisites: Industrial Automation and Robotics I
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a directed elective or elective for all diplomas
- Qualifies as a quantitative reasoning course

4568 AP Computer Science Principles (CSP AP) The AP Computer Science Principles course is designed to be equivalent to a first-semester introductory college computing course. In this course, students will develop computational thinking skills vital for success across all disciplines, such as using computational tools to analyze and study data and working with large data sets to analyze, visualize, and draw conclusions from trends. The

course engages students in the creative aspects of the field by allowing them to develop computational artifacts based on their interests. Students will also develop effective communication and collaboration skills by working individually and collaboratively to solve problems and will discuss and write about the impacts these solutions could have on their community, society, and the world.

- Recommended Grade: 9, 10, 11, 12
- Recommended Prerequisites: Introduction to Computer Science, Algebra I
- Credits: 2 semester course, 1 credit per semester
- Fulfills a science course requirement for all diplomas
- Qualifies as a quantitative reasoning course

4570 AP Computer Science A (COMP SCI AP) AP Computer Science A introduces students to computer science through programming. Fundamental topics include the design of solutions to problems, the use of data structures to organize large sets of data, the development and implementation of algorithms to process data and discover new information, the analysis of potential solutions, and the ethical and social implications of computing systems. The course emphasizes object-oriented programming and design using the Java programming language. AP Computer Science A is equivalent to a first-semester, college-level course in computer science.

- Recommended Grade: 11, 12
- Recommended Prerequisites: AP Computer Science Principles or Computer Science I, Algebra II
- Credits: 2 semester course, 1 credit per semester
- Counts as an elective for all diplomas
- Fulfills a science course requirement for all diplomas
- Qualifies as a quantitative reasoning course

4790 Introduction to Communications (INT COMM) Introduction to Communications is a course designed to provide a foundational knowledge of identifying and using modern communication to exchange messages and information. This course explores the application of the tools, materials, and techniques used to design, produce, use, and assess systems of communication. Students will produce graphic and electronic media as they apply communication 265 Indiana Department of Education 2021-2022 High School Course Titles and Descriptions technologies. This course will also explore the various technical processes used to link ideas and people through the use of electronic and graphic media. Major goals of this course include an overview of communication technology; the way it has evolved, how messages are designed and produced, and how people may profit from creating information services and products. Students will explore mass media communication processes including radio and television broadcasting, publishing and printing activities, telecommunication networks, recording services, computer and data processing networks, and other related systems. Students will use the design process to solve design projects in each communication area.

- Recommended Grade: 9, 10
- Credits: 1 or 2 semester course, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

4802 Introduction to Engineering Design INT ENG DES Introduction to Engineering Design is a fundamental pre-engineering course where students become familiar with the engineering design process. Students work both individually and in teams to design solutions to a variety of problems using industry standard sketches and current 3D design and modeling software to represent and communicate solutions. Students apply their knowledge through hands-on projects and document their work with the use of an engineering notebook. Students begin with completing structured activities and move to solving open-ended projects and problems that require them to develop planning, documentation, communication, and other professional skills. Ethical issues related to professional practice and product development are also presented. NOTE: This course aligns with the PLTW Introduction to Engineering Design curriculum. Use of the PLTW curriculum may require additional training and

membership in the PLTW network.

- Recommended Grade(s): 9, 10, 11
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- NOTE: Schools that have agreed to be part of the Project Lead the Way network must follow all training and data collection requirements.

5644 Principles of Engineering PRNC ENG Principles of Engineering is a course that focuses on the process of applying engineering, technological, scientific and mathematical principles in the design, production, and operation of products, structures, and systems. This is a hands-on course designed to provide students interested in engineering careers to explore experiences related to specialized fields such as civil, mechanical, and materials engineering. Students will engage in research, development, planning, design, production, and project management to simulate a career in engineering. The topics of ethics and the impacts of engineering decisions are also addressed. Classroom activities are organized to allow students to work in teams and use modern technological processes, computers, CAD software, and production systems in developing and presenting solutions to engineering problems. Schools may use the PLTW curriculum to meet the standards for this course. NOTE: This course aligns with the PLTW Principles of Engineering curriculum. Use of the PLTW curriculum may require additional training and membership in the PLTW network.

- Recommended Grade(s): 10, 11
- Required Prerequisites: Introduction to Engineering Design
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Fulfills a science course requirement for all diplomas •Qualifies as a quantitative reasoning course

5650 Civil Engineering and Architecture CIVIL ENG 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 resources, 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. NOTE: This course aligns with the PLTW Civil Engineering and Architecture curriculum. Use of the PLTW Curriculum may require additional training and membership in the PLTW network.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Introduction to Engineering Design
- Recommended Prerequisites: none
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Qualifies as a quantitative reasoning course

5698 Engineering Design and Development ENG DES DEV Engineering Design and Development is an engineering research course in which students work in teams to research, design, test, and construct a solution to an open-ended engineering problem. The product development life cycle and a design process are used to guide the team to reach a solution to the problem. The team and/or individual(s) communicates their solution to a panel of stakeholders at the conclusion of the course. As the capstone course in the Engineering Pathway, EDD engages students in critical thinking, problem-solving, time management, and teamwork skills. NOTE: This course aligns with the PLTW Engineering Design and Development curriculum. Use of the PLTW curriculum may require additional training and membership in the PLTW network.

- Recommended Grade(s): 12
- Required Prerequisites: Introduction to Engineering Design; Principles of Engineering; and one pre-engineering specialty course
- Credits: 2 semester course, 2 semesters required, 1-3 credits per semester, 6 credits maximum
- Counts as a directed elective or elective for all diplomas
- Qualifies as a quantitative reasoning course

5518 Aerospace Engineering (AERO ENG) Aerospace Engineering should provide students with the fundamental knowledge and experience to apply mathematical, scientific, and engineering principles to the design, development, and evolution of aircraft, space vehicles and their operating systems. Emphasis should include investigation and research on flight characteristics, analysis of aerodynamic design, and impact of this technology on the environment. Classroom instruction should provide creative thinking and problem-solving activities using software that allows students to design, test, and evaluate a variety of air and space vehicles, their systems, and launching, guidance and control procedures. NOTE: This course aligns with the PLTW Aerospace Engineering curriculum. Use of the PLTW curriculum may require additional training and membership in the PLTW network.

- Recommended Grade: 11, 12
- Required Prerequisites: Introduction to Engineering Design; and Principles of Engineering
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Qualifies as quantitative reasoning course
- Fulfills a science course requirement for all diplomas
- Counts as a directed elective or elective for all diplomas

5534 Computer Integrated Manufacturing COMP INT MFG Computer Integrated Manufacturing is a course that applies principles of rapid prototyping, robotics, and automation. This course builds upon the computer solid modeling skills developed in Introduction of Engineering Design. Students will use computer controlled rapid prototyping and CNC equipment to solve problems by constructing actual models of their three-dimensional designs. Students will also be introduced to the fundamentals of robotics and how this equipment is used in an automated manufacturing environment. Students will evaluate their design solutions using various techniques of analysis and make appropriate modifications before producing their prototypes. NOTE: This course aligns with the PLTW Computer Integrated Manufacturing curriculum. Use of the PLTW curriculum may require additional training and membership in the PLTW network.

- Recommended Grade(s): 11, 12
- Required Prerequisites: Introduction to Engineering Design
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- Qualifies as a quantitative reasoning course

7199 Engineering Essentials ENG ESS Engineering Essentials is designed as a first-exposure experience to inspire students of all backgrounds to explore the breadth of engineering-related career opportunities. Throughout the course, students explore global engineering challenges and sustainability goals, the impact of engineering, and the variety of career paths available to them. Students will understand the various disciplines within the engineering field, approach and solve problems in different ways, use a variety of industry tools, and build an engineering mindset. NOTE: This course aligns with the PLTW Engineering Essentials curriculum. Use of the PLTW curriculum may require additional training and membership in the PLTW network.

- Recommended Grade(s): 9
- Credits: 1 or 2 semester course, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas
- NOTE: Schools that have agreed to be part of the Project Lead the Way network must follow all training and data

collection requirements.

5538 Digital Electronics (DIG ELEC) Digital Electronics is a course of study in applied digital logic that encompasses the design and application of electronic circuits and devices found in video games, watches, calculators, digital cameras, and thousands of other devices. Instruction includes the application of engineering and scientific principles as well as the use of Boolean algebra to solve design problems. Using computer software that reflects current industry standards, activities should provide opportunities for students to design, construct, test, and analyze simple and complex digital circuitry software that will be used to develop and evaluate the product design. This course engages students in critical thinking and problem-solving skills, time management and teamwork skills. NOTE: This course aligns with the PLTW Digital Electronics curriculum. Use of the PLTW curriculum may require additional training and membership in the PLTW network.

- Recommended Grade: 11, 12
- Required Prerequisites: Introduction to Engineering Design; and Principles of Engineering
- Credits: 2 semester course, 2 semesters required, 1 credit per semester, 2 credits maximum
- Counts as a directed elective or elective for all diplomas

WORLD LANGUAGE

2120 Spanish I (SPAN I) Spanish I, 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 or 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 of the classroom.

- Recommended Grade: 9, 10, 11, 12
- Credits: 2 semester course, 1 credit per semester
- Counts as a directed elective or elective for all diplomas
- Fulfills a World Language requirement for the Core 40 with Academic Honors Diploma

2122 Spanish II (SPAN II) Spanish II, 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 content areas and the application of understanding Spanish language and culture outside of the classroom.

- Recommended Grade: 9, 10, 11, 12
- Required Prerequisites: Spanish I
- Credits: 2 semester course, 1 credit per semester
- Counts as a directed elective or elective for all diplomas
- Fulfills a World Language requirement for the Core 40 with Academic Honors Diploma

2124 Spanish III (SPAN III) Spanish III, 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; and 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.

- Recommended Grade: 9, 10, 11, 12
- Required Prerequisites: Spanish I and II
- Credits: 2 semester course, 1 credit per semester
- Counts as a directed elective or elective for all diplomas
- Fulfills a World Language requirement for the Core 40 with Academic Honors Diploma

2126 Spanish IV (SPAN IV) Spanish IV, 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 an 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.

- Recommended Grade: 10, 11, 12
- Required Prerequisites: Spanish I, II, and III
- Credits: 2 semester course, 1 credit per semester
- Counts as a directed elective or elective for all diplomas
- Fulfills a World Language requirement for the Core 40 with Academic Honors Diploma

2128 Spanish V (SPAN V) Spanish V, a course based on Indiana’s Academic Standards for World Languages, provides opportunities for students to interact and exchange information in culturally and socially authentic and/or simulated situations to demonstrate integration of language skills with understanding of Spanish-speaking culture. This course emphasizes the use of appropriate formats, varied vocabulary and complex language structures within student communication, both oral and written, as well as the opportunity to produce and present creative material using the language. Additionally, students will continue to develop understanding of Spanish-speaking culture through investigating the origin and impact of significant events and contributions unique to the target culture, comparing and contrasting elements that shape cultural identity in the target culture and the student’s own culture, and explaining how the target language and culture have impacted other communities. This course further emphasizes the integration of concepts and skills from other content areas with the target language and cultural understanding, as well as the exploration of community resources intended for native Spanish speakers.

- Recommended Grade: 10, 11, 12
- Required Prerequisites: Spanish I, II, III, and IV
- Credits: 2 semester course, 1 credit per semester
- Counts as a directed elective or elective for all diplomas
- Fulfills a World Language requirement for the Core 40 with Academic Honors Diploma

Logansport Career Center

Rochester students may take the following program. Please see link for more information regarding the above courses:

<https://ccc.lcsc.k12.in.us/o/century-career-center/page/career-pathways>

CAREER PATHWAYS

<u>Advanced Manufacturing</u>	<u>Art, Media, & Communication</u>	<u>Building & Construction</u>
<u>Business & Information Technology</u>	<u>Criminal Justice</u>	<u>Education and Training</u>
<u>Engineering, Science, & Technology</u>	<u>Health Science</u>	<u>Transportation</u>

Please see link for more information regarding the above courses:

<https://ccc.lcsc.k12.in.us/o/century-career-center/page/career-pathways>

North Central Area Vocational Cooperative

We also partner with the North Central Area Vocational Cooperative (NCAVC) and offer additional classes.
<https://www.northcentralcte.org/>

Below are some short videos of opportunities available through North Central Area Vocational Cooperative:

Aviation
Automotive Technology
Building Trades
Criminal Justice
Culinary Arts and Hospitality
Early Childhood Education
Health Science Education
Graphics Imaging
Industrial Automation and Robotics
Precision Machining
Welding Technology