

NLCC College and Career
Pathways
812.279.3561 • 258 BNL Drive • Bedford, Indiana 47421

2017-2018 PATHWAYS AND COURSE



QUICK REFERENCE GUIDE

STRENGTHENING MINDS, TRAINING HANDS, BUILDING LEADERS

AGRICULTURE CAREER PATHWAYS

GOAL: Complete 3 Agriculture Courses

1

- **Introduction to Agriculture, Food, and Natural Resources**

- Course number **600**: 1 period, all year, 2 credits

This is the foundation class for the agriculture program. This course allows students to “sample” a variety of topics in agriculture and the various agriculture career pathways available for students. Topics covered include all aspects of agriculture ranging from FFA, to business, plants, animals, and mechanics.

- **Agriculture Power, Structure and Technology**

- Course number **6582**: 2 periods, all year, 4 credits

Agriculture Power, Structure and Technology is a 2 or 3 period, year long course that is hands-on. It teaches the basics of equipment maintenance and repair. Topics in the class include safety, electricity, plumbing, concrete, carpentry, metal technology, small engines / tractors and other machinery.

- **Animal Science***

- Course number **604**: 1 period, all year, 2 credits

Animal Science is a year long class that focuses on both livestock animals and companion animals. Students learn about animal anatomy and physiology, genetics, reproduction, nutrition, careers, diseases, parasites, issues related to the animal industry, and the management practices used in the animal industry. Dual Credit opportunities are available through Ivy Tech Community College and Vincennes University.

- **Advanced Life Science: Animals**

- Course number **605**: 1 period, all year, 2 credits

Advanced Life Science is a year long course which uses both classroom work and laboratory work. Students investigate concepts associated with animal taxonomy, life at the cellular level, organ systems, genetics, evolution, ecology, historical and current issues in animal agriculture.

- **Natural Resources***

- Course number **606**: 1 period, all year, 2 credits

Natural Resources is a year long course that provides information about Indiana’s natural resources. The course uses both classroom instruction and hands-on learning to investigate soils, the water cycle, air quality, outdoor recreation, forestry, rangelands, wetlands, animal wildlife, safety, and careers. Dual Credit opportunities are available through Ivy Tech Community College.

- **Sustainable Energy Alternatives**

- Course number **607**: 1 period, all year, 2 credits

Sustainable Energy Alternatives is a year long course that promotes the use of environmentally friendly energy. The course uses classroom instruction and hand-on activities to investigate alternative energy sources both renewable and sustainable such as solar, wind, geothermal, biomass and other emerging technologies in energy. Dual Credit opportunities are available through Ivy Tech Community College.

*Indicates Dual Credit opportunities.

For more information contact:

Logan Felts, Agriculture Instructor, feltsl@nlcs.k12.in.us or 812-279-3561 ext. 48116

Brad Holmes, Ag Power Structure Instructor, holmesb@nlcs.k12.in.us or 812-279-3561 ext. 48115

AGRICULTURE CAREER PATHWAYS

GOAL: Complete 3 Agriculture Courses

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- Course number **600**: 1 period, all year, 2 credits

This is the foundation class for the agriculture program. This course allows students to “sample” a variety of topics in agriculture and the various agriculture career pathways available for students. Topics covered include all aspects of agriculture ranging from FFA, to business, plants, animals, and mechanics.

- **Agribusiness Management***

- Course number **608**: 1 period, all year, 2 credits

Agribusiness Management is a year long course that explores business organization types and management ranging from local markets to global markets. Topics covered in the class include food and fiber, types of businesses, finance, marketing, management, sales, and careers. Dual Credit opportunities are available through Ivy Tech Community College and Vincennes University.

- **Plant and Soil Science***

- Course number **610**:

- Grade level 10-12, 1 period, all year, 2 credits

Plant & Soil Science provides students with opportunities to participate in a variety of activities including lab work. Topics covered include: the taxonomy of plants, various plant components and their functions, plant growth, plant reproduction and propagation, photosynthesis and respiration, environmental factors affecting plant growth, diseases and pests of plants and their management, biotechnology, the basic components and types of soil, calculation of fertilizer application rates and procedures for application, soil tillage and conservation, irrigation and drainage, land measurement, cropping systems, precision agriculture, principles and benefits of global positioning systems, harvesting, and career opportunities in the field of plant and soil science.

*Fulfills a Life Science or Physical Science requirement for the General Diploma only or counts as a Directed Elective or Elective for the General, Core 40, Core 40 with Academic Honors and Core 40 with Technical Honors diplomas.

This course is aligned with postsecondary courses for Dual Credit with Ivy-Tech.

- **Horticulture Science***

- Course number **612**

- Grade level 10-12, 1 period, all year, 2 credits

Horticultural Science is designed to give students a background in the field of horticulture and its many career opportunities. It addresses the biology and technology involved in the production, processing, and marketing of horticultural plants and products. Topics covered include: reproduction and propagation of plants, plant growth, growth media, management practices for field and greenhouse production, marketing concepts, production of plants of local interest, and pest management. Students will do extensive work in the greenhouse.

*Fulfills a Life Science or Physical Science requirement for the General Diploma only or counts as a Directed Elective or Elective for the General, Core 40, Core 40 with Academic Honors and Core 40 with Technical Honors diplomas. This course is aligned with postsecondary courses for Dual Credit with Ivy-Tech.

*Indicates Dual Credit opportunities.

For more information contact:

Logan Felts, Agriculture Instructor, feltsl@nlcs.k12.in.us or 812-279-3561 ext. 48116
 Brad Holmes, Ag Power Structure Instructor, holmesb@nlcs.k12.in.us or 812-279-3561 ext. 48115

WEB AND DIGITAL COMMUNICATION PATHWAYS

GOAL: Web and Digital Communications Pathway

1

- **Graphic Design and Layout***

- Course number **6202**

- 2 periods, all year, 4 credits

This course is a combination of classroom and lab time covering industry standards in design and learning the Adobe Creative Suite software Photoshop and Illustrator with the intentions of becoming certified by the completion of the course. Students will learn fundamentals of digital photography, photo manipulation, logo design, creation, and more.

2

- **Interactive Media***

- Course number **6232**

- 2 periods, all year, 4 credits

Grade Level 10-12, 2-3 periods, all year, 4-6 credits

Interactive Media will build upon design fundamentals by developing print graphics and original layout designs into other forms of interactive media such as websites, video and movie production, augmented reality, and full campaigns that combine all sources.

3

- **Digital Imaging Technology***

Course number **621**

Grade Level 10-12, 1 period, all year, 2 credits

Beyond the scope of design students will have the opportunity to learn the fundamentals of printing and production. From booklet layout and production to large format printing of vehicle wraps, banners, and decals, students will become fluent in file formatting, printing and plotter materials, printer operation and maintenance.

!!Digital Imaging Technology can be taken as a 1 period course or in conjunction with Graphic Design and Layout or Interactive Media.

*Indicates Dual Credit opportunities.

For more information contact:

Dana Haddan, Digital Communication Instructor, haddand@nlcs.k12.in.us or 812-279-3561 ext.48138

EARLY CHILDHOOD EDUCATION

GOAL: Early Childhood Education

1

- **Early Childhood Education 1***

- Course number **6422, 6423**

- Grade level 10-12, 2-3 periods, all year, 4-6 credits

This course, in conjunction with Early Childhood Education 2, prepares students for entry level positions in child care facilities and post-secondary educational opportunities in education. Class time is split between working in the classroom and the adjacent childcare lab with children ranging from six weeks to pre-kindergarten. Major topics include: child development, health and safety procedures, nutrition, state licensing requirements, and early childhood education history, theory and foundations. Dual credit opportunities are available through Ivy Tech Community College.

2

- **Early Childhood Education 2**

- Course number **6432, 6433**

- Grade level 11-12, 2-3 periods, all year, 4-6 credits

In addition to splitting time between classroom and lab, students will have opportunities to visit and observe local preschools. Major topics of ECE II include: Child Development Associate (CDA) credential; safe and healthy learning environments; observation and documentation; physical, cognitive, social, and emotional development; relationships with families; program management; and professionalism. Students will use content knowledge to build meaningful curriculum as they create and implement lesson plans.

- **Work Based Learning (Optional)**

Course number **693(Fall)** or **694(Spring)**, State ID 5892

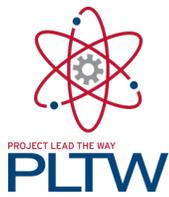
3 periods, all year, 3 credits

Students may also have the opportunity to participate in the Work Based Learning program. Students may gain employment at area businesses and apply their classroom instruction to life application.

*Indicates Dual Credit opportunities.

For more information contact:

Elizabeth Felts, Early Education Instructor, feltsb@nlcs.k12.in.us or 812-279-3561 ext. 48133



ENGINEERING CAREER PATHWAYS

Project Lead the Way

1

- **Introduction to Engineering Design (PLTW IED)***

- Course number **672**

- Grade Level 9-10, 1 period, all year, 2 credits

Students are introduced to the engineering design process, applying math, science, and engineering standards to identify and design solutions to a variety of real problems. They work both individually and in collaborative teams to develop and document design solutions using engineering notebooks and Autodesk INVENTOR, mechanical design & 3D CAD modeling software.

2

- **Principles of Engineering (PLTW POE)***

- Course number **674**

- Grade Level 10-12, 1 period, all year, 2 credits

Through problems that engage and challenge, students explore a broad range of engineering topics, including mechanisms, the strength of structures and materials, robotics and automation. Students develop skills in problem solving, research, and design while learning strategies for design process documentation, collaboration, and presentation.

3

- **To complete the program; select one of the following courses:**

- **Civil Engineering and Architecture**

- **Computer Integrated Manufacturing**

- **Digital Electronics**

(See the following page for descriptions)

*Indicates Dual Credit opportunities.

For more information contact:

Frank Decker: deckerf@nlcs.k12.in.us or 812-279-3561

ENGINEERING / ENGINEERING TECHNOLOGY PATHWAYS

Project Lead the Way

3

- **Civil Engineering and Architecture (PLTW CEA)***

- Course number 673

- Grade level 10-12, 1 period, all year, 2 credits

Students learn important aspects of building and site design and development. They apply math, science, and standard engineering practices to design both residential and commercial projects and document their work using Autodesk REVIT, architecture design & 3D modeling software.

3

- **Computer Integrated Manufacturing (PLTW CIM)**

- Course number 679

- Grade level 10-12, 1 period, all year, 2 credits

Manufactured items are part of everyday life, yet most students have not been introduced to the high-tech, innovative nature of modern manufacturing. This course illuminates the opportunities related to understanding manufacturing. At the same time, it teaches students about manufacturing processes, product design, CNC control systems, robotics, and automation. Students can earn a virtual manufacturing badge recognized by the National Manufacturing Badge system.

3

- **Digital Electronics (DE)***

- Course number 675

- Grade level 10-12, 1 period, all year, 2 credits

From smartphones to appliances, digital circuits are all around us. This course provides a foundation for students who are interested in electrical engineering, electronics, or circuit design. Students study topics such as combinational and sequential logic and are exposed to circuit design tools used in industry, including logic gates, integrated circuits, and programmable logic devices.

*Indicates Dual Credit opportunities.

For more information contact:

Frank Decker: deckerf@nlcs.k12.in.us or 812-279-3561

HEALTH SCIENCE ED 1 & 2 CAREER PATHWAYS

GOAL: Health Science Education Pathway

1

- **Health Science Ed 1***

- Course number **6832, 6833**

- Grade level: 10-12, 2-3 periods per semester, all year, 4-6 credits

Welcome to the world of health care. This is the first year class of a two year program. Health Science 1 students learn about various careers in the health care field such as Nursing, Physical Therapy, Occupational Therapy, Medical Assisting and more. Students may also have limited job shadowing opportunities. Students will become members of HOSA and become CPR certified.

2

- **Medical Terminology***

- Course number **681**

- Grade level suggested: 10-12, 1 period, all year, 2 credits

Students will learn to spell, pronounce, and define medical terms as related to body systems. Dual credit opportunities are available through Ivy Tech Community College.

3

- **Health Science Ed 2***

- Course number **6843**

- Grade level: 11-12, 3 periods per semester, all year 6 credits

This is the second class in the two year program. Students will have classroom instruction, followed by clinical rotations in various health care settings at area hospitals, long term care facilities, Doctors' offices and other similar facilities. Students will become members of HOSA and become CPR certified as well as the opportunity to earn CNA.

* Self transportation needed for clinicals

*Indicates Dual Credit opportunities.

For more information contact:

Mrs. Mary Kinser Kinserm@nlcs.k12.in.us or 812-279-3561 ext. 48134

Mrs. Heidi Myers myersh@nlcs.k12.in.us or 812-279-3561 ext. 48124

WEB AND DIGITAL COMMUNICATION PATHWAYS

GOAL: Radio and TV 1&2

1

- **Radio and TV 1**

- Course number **6452, 6453**

- Grade level 10-12, 2-3 periods, all year, 4-6 credits

This two semester course allows students to learn the basics of broadcasting that include writing news stories, shooting video, editing, interviewing, directing and performing productions. Along with learning teamwork, this class will build students' reading, writing, public speaking, and leadership skills.

2

- **Radio and TV 2**

- Course number **6462, 6463**

- Grade level 11-12, 2-3 periods, all year, 4-6 credits

Students accepted into this course will be responsible for the daily operation of Star Station Television. Star Television produces a variety of programs aired on Comcast Channel 14, AT&T Uverse Channel 99, and Vimeo. Each student will be responsible for all elements of production, including news gathering and reporting, script writing, announcing, camera operation, and editing.

- **Work Based Learning (Optional)**

Course number **693(Fall)** or **694(Spring)**, State ID 5892

3 periods, all year, 3 credits

Students may also have the opportunity to participate in the Work Based Learning program. Students may gain employment at area businesses and apply their classroom instruction to life application.

*Indicates Dual Credit opportunities.

For more information contact:

Maria Edwards, Radio and TV Instructor, edwardsm@nlcs.k12.in.us or 812-279-9756 ext.41150

BIOMEDICAL PATHWAYS

GOAL: Project Lead the Way

1

Principles of Biomedical Science (PLTW PBS)

- Course number **644**
- Grade level: 9-12, 1 period, all year, 2 credits
- Core 40 Science credit for all diplomas

In the introductory course of the PLTW Biomedical Science program, students explore concepts of biology and medicine to determine factors that led to the death of a fictional person. While investigating the case, students examine autopsy reports, investigate medical history, and explore medical treatments that might have prolonged the person's life. The activities and projects introduce students to human physiology, basic biology, medicine, and research processes while allowing them to design their own experiments to solve problems.

2

• Human Body Systems (2018-19 school year)

- Course number
- Grade level: 10-12, 1 period, all year, 2 credits
- Core 40 Science credit for all diplomas

Students examine the interactions of human body systems as they explore identity, power, movement, protection, and homeostasis. Exploring science in action, students build organs and tissues on a skeletal Maniken; use data acquisition software to monitor body functions such as muscle movement, reflex and voluntary action, and respiration; and take on the roles of biomedical professionals to solve real-world medical cases.

*Indicates Dual Credit opportunities.

For more information contact:
Mrs. Heidi Myers myersh@nlcs.k12.in.us or 812-279-3561 ext. 48124

Cosmetology Career Pathways

GOAL: Cosmetology Pathway

1

- **COSMETOLOGY I**

- Course number **695**

- Grade level 11, 4 periods, all year, 6 credits

Cosmetology is the study of hair, nails, and skin. Students will have traditional studies as well as hands on training at an off-site salon/studio.

This course is the first year of a two-year program available to juniors and seniors. Students in their first year will work towards earning their Indiana Cosmetology License by working lab hours.

2

- **COSMETOLOGY II**

- Course number **696**

- Grade level 12, 4 periods, all year, 6 credits

This course is the second year of a two-year program available to juniors and seniors. Students are then eligible to take the state licensing test.

Students will have real world clients to receive services as they work toward completing the state required 1500 hours. At the completion of the 2 year program, students will take the state board test and upon successful completion, be licensed by the state of Indiana.

PLEASE NOTE: Students must be able to provide their own transportation to and from the Indiana Cosmetology Academy.

For more information contact: the NLCC Counselor, Kim Magness
Dennis Robbins, Owner / Operator indianacosmetologyacademy@gmail.com or 812-275-5480

Human Services

GOAL: Culinary Arts & Hospitality Pathway

1

• Introduction to Culinary Arts & Hospitality

- Course number **633**

- Grade level 10-12, 1 period, all year, 2 credits

Recommended for all students regardless of their career cluster or pathway, in order to build 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 food service 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.

2

• Culinary Arts & Hospitality I

- Course number **6332 / 16333**

- Grade level 11-12, 2-3 periods, all year, 4-6 credits

Culinary Arts and Hospitality I prepares students for occupations and higher education programs of study related to the entire spectrum of careers in the hospitality industry. This course builds a foundation that prepares students to enter the Advanced Culinary Arts or Advanced Hospitality courses. Major topics include: introduction to the hospitality industry; food safety and personal hygiene; sanitation and safety; regulations, procedures, and emergencies; basic culinary skills; culinary math; and food preparation techniques and applications; principles of purchasing, storage, preparation, and service of food and food products; ; apply basic principles of sanitation and safety in order to maintain safe and healthy food service and hospitality environments; use and maintain related tools and equipment; and apply management principles in food service or hospitality operations. Intensive laboratory experiences with commercial applications are a required component of this course of study. Student laboratory experiences may be either school-based or "on-the-job" or a combination of the two. Work-based experiences in the food industry are strongly encouraged. A standards-based plan guides the students' laboratory experiences. Students are monitored in their laboratory experiences by the Culinary Arts and Hospitality teacher.

INFORMATION TECHNOLOGY

Computer Science Pathway

1

- **COMPUTER SCIENCE I****

- NLCC **678** IDOE **4801**

- 1 period, all year, 2 credits

Computer Science 1: Consists of 6 units, approximately 6 weeks each. The course was developed around a framework of both computer science content and computational practice. Assignments and instruction are contextualized to be socially relevant and meaningful for diverse students. Units utilize a variety of tools/platforms, and culminate with final projects around the following topics: Human Computer Interaction, Problem Solving, Web Design, Programming, Computing and Data Analysis, and Robotics.

2

- **COMPUTER SCIENCE I: PRINCIPALS**

- NLCC IDOE **4568**

- 1 period, all year, 4 credits

This course is designed to be far more than a traditional introduction to programming. It is a rigorous, engaging, and approachable course that explores many of the big, foundational ideas of computing so that all students understand how these concepts are transforming the world we live in. At the end of the course students will have the opportunity to take the official AP exam for Computer Science.

3

- **COMPUTER SCIENCE II: PROGRAMMING****

- NLCC **6701** IDOE **5236**

- 1 period, all year, 2 credits

Computer Science II: Programming explores and builds skills in programming and a basic understanding of the fundamentals of procedural program development using structured, modular concepts. Coursework emphasizes logical design involving user-defined functions and standard structure elements. Discussions will include the role of data types, variables, structures, addressable memory locations, arrays and pointers and data file access methods. An emphasis on logical program design using a modular approach, which involves task oriented program functions.

- **Oracle JAVa SE 8 Programmer 1 exam certification**

*Indicates Dual Credit opportunities.

For more information contact:

Jason Harding, Computer Science Instructor, hardingj@nlcs.k12.in.us or 812-279-3561 ext. 48139

INFORMATION TECHNOLOGY

PC and Network Support Pathway

1

- **COMPUTER TECH SUPPORT****

- NLCC: 671 IDOE: 5230

- 1 or 2 periods, all year, 2-4 credits

Computer Tech Support allows students to explore how computers work. Students learn the functionality of hardware and software components as well as suggested best practices in maintenance and safety issues. Through hands on activities and labs, students learn how to assemble and configure a computer, install operating systems and software, and troubleshoot hardware and software problems. Students should earn an industry-based certification at the end of the course.

- **CompTIA A+ certification exam**

2

- **NETWORKING I**

- NLCC: 625 IDOE: 5234

- 1 or 2 periods, all year, 2-4 credits

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

3

- **NETWORKING II: Servers & Security**

- NLCC: IDOE: 5257

- 1 or 2 periods, all year, 2-4 credits

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

*Indicates Dual Credit opportunities.

For more information contact:

Jason Harding, Computer Science Instructor, hardingj@nlcs.k12.in.us or 812-279-3561 ext. 48139

CONSTRUCTION TRADES CAREER PATHWAYS

GOAL: Construction Technology

1

- **INTRODUCTION TO CONSTRUCTION TECHNOLOGY (Optional)**

- Course number **689**

- Grade levels 9-12, 1 period, all year, 2 credits

Introduction to construction is a course that will offer hands-on activities and real world experiences related to the skills essential in residential, commercial, and civil building construction. During the course, students will be introduced to the history and traditions of construction trades, care and safe use of hand power tools, blueprint reading, applied math, basic tools and equipment, and safety. Students will demonstrate building construction techniques, including concrete and masonry, framing, electrical, plumbing, dry walling, HVAC, and painting.

1

- **CONSTRUCTION TECHNOLOGY I**

- Course number **6872, 6873**

- Grade level 10-12, 2-3 periods, all year, 4-6 credits

This program emphasizes industry safety practices and basic skills needed in the carpentry trade. Instruction is provided in the areas of residential framing and finish. Students learn by applying skills to projects constructed in a lab environment. Hands on learning is the focus of the program and these experiences provide an excellent introduction to a career in this dynamic field. SkillsUSA is our student youth organization available that can enhance the students opportunities for success.

2

- **CONSTRUCTION TECHNOLOGY II**

- Course number **688**

- 2-3 periods, all year, 4-6 credits

This program provides training in the trade areas of residential plumbing, electrical, and drywall. Plumbing covers both the rough and trim through completing a full bathroom of piping and fixtures. Electrical wiring provides the experience of rough in and trim wiring a diversity of circuits to a distribution panel in a framed house. Drywall basics are covered when hanging and finishing drywall on the ceiling and walls of our framed house. Affiliated with SkillsUSA

*Indicates Dual Credit opportunities.

For more information contact:

Construction Trades, Gary Ray, rayg@nlcs.k12.in.us, 812-279-3561 ext. 48151

ELECTRONICS AND COMPUTER TECHNOLOGY CAREER PATHWAYS

GOAL: Electronics & Computer Engineering Technician

1

- **ELECTRONICS & COMPUTER TECHNOLOGY I - I (Optional)**

- Course number **6641**

- Grade level: 9-12, 1 period, all year, 2 credits

Welcome to the world of Electronics. This is a hands-on lab class, especially for students who are interested in exploring

Electronic devices leading to a potential career in Electronics, Robotics, or Engineering Technicians. This class utilizes the TRONIX Lab curriculum that will provide students with a foundation in basic electronic concepts and components.

2

- **ELECTRONICS & COMPUTER TECHNOLOGY I***

- Course number **6642**

- Grade level:10-12, 2 period, all year, 4 credits

Electronics & Computer Technology I is a program for students interested in pursuing a career in the exciting field of Electronics and Computers.

Students are provided a solid foundation in Analog and Digital Electronics. A variety of learning experiences are provided for students to achieve sound knowledge of electronic components and circuitry through classroom and laboratory projects.

3

- **ELECTRONICS & COMPUTER TECHNOLOGY II***

- Course number **6652**

- Grade level: 11-12, 2 period, all year, 4 credits

Electronics & Computer Technology II is the capstone class for students who wish to complete a high school Career and Technical Education major.

This program is a continuation of Electronics & Computer Technology I and provides students the opportunity to pursue a Technical Honors diploma and National Certification as an Electronic and Computer Technician.

*Indicates Dual Credit opportunities.

For more information contact:

William Teague, teaguw@nlcs.k12.in.us, 812-279-3561 ext. 48132

ENERGY INDUSTRY

GOAL: STEM - Science, Technology, Engineering, & Technology

1

Energy Industry I

- Course number **608 / 6082**

- Grade level: 11-12, 1-2 periods, all year, 2-4 credits

Energy Industry I introduces students to basic concepts in energy delivery as well as maintaining energy related facilities and equipment.. This course includes basic electric theory focused on safety and professional standards. Students will also explore the relationship between Alternative and Green Energy as it relates to the delivery of gas and electricity. This course includes field trips, on-site training, mentors, and project-based learning activities in the Energy Industry. Students have the opportunity to earn certifications through the National Center for Research in Construction Education (NCCER).

- Recommended Prerequisites: Introduction to Construction

2

Energy Industry II

- Course number

- Grade level: 12, 1-2 periods, all year, 2-4 credits

Energy Industry II builds on skills learned in Energy Industry I. This curriculum includes electrical installation and generation and will touch on natural gas services. Students will have the opportunity to experience career internships, participate with field mentors, carry out a culminating senior project and participate in field trips related to their area of interest. Industry partners would include Energy companies, Electricians Union (IBEW), the steel industry and manufacturing companies. Energy Industry I is a prerequisite.

- Required Prerequisites: Energy Industry I

*Indicates Dual Credit opportunities.

For more information contact:

William Teague, teaguew@nlcs.k12.in.us, 812-279-3561 ext. 48132

Glenn Weil, weilg@nlcs.k12.in.us, 812-279-3561 ext. 48114

PRECISION MACHINING PATHWAYS

GOAL: Machinist

1

- **PRECISION MACHINING I-I (Optional)**

- Course number **6501**

- Grade levels 9-10 1 period, all year, 2 credits

This is a one year course meeting 1 period each day. Material covered in this class is the same as Precision Machining 1, standards such as different machining processes, precision measuring, blueprint reading and related math. This course is designed to provide scheduling flexibility for students to complete PM1 in two years.

1

- **PRECISION MACHINING I***

- Course number **6502, 6503**

- Grade levels 10-12, 2-3 periods, all year, 4-6 credits

In this beginning course, you will learn different machining processes, precision measuring, blueprint reading, and related math.

Precision Machining 1 offers dual credit through Vincennes University (3 credits)

"This class is fun and exciting because we turn a piece of steel into a useful tool by using a machine and our hands."

2

- **PRECISION MACHINING II***

- Course number **651**

- Grade levels 10-12, 2-3 period, all year, 4-6 credits

In this advanced course, you will learn how to produce complex machining projects with advanced machines. Precision Machining 2 offers dual credit through Vincennes University. (6 credits)

"In this class, we make tougher projects that all fit together to make a complicated tool and we learn things that will help us in life, even if we decide not to be a machinist."

*Indicates Dual Credit opportunities.

For more information contact:

Brad Gilbert, Precision Machining Instructor, gilbertb@nlcs.k12.in.us, 812-279-3561 ext. 48112

WELDING CAREER PATHWAYS

GOAL: Welder / Fabricator

1

- **WELDING TECHNOLOGY I***

- Course number **6562, 6563**

- Grade level 10-12, 2-3 period, all year, 4-6 credits

This is a beginning class in which you will learn three welding processes (MIG, TIG, and STICK), and cutting with a flame torch and plasma torch.

"Probably the most fun you could have during school. It's like work and play."

Welding I offers dual credit with Vincennes University (6 credits)

2

- **WELDING TECHNOLOGY II***

- Course number **6572, 6573**

- Grade level 11-12, 2-3 periods, all year, 4-6 credits

This course is strongly associated with the American Welding Society and dual credit is available with Vincennes University (3 credits)

"It's the class that you take if you want to do something in this field. It's a good class to learn some real world experience".

*Indicates Dual Credit opportunities.

For more information contact:

David McCart, Welding Instructor, mccartd@nlcs.k12.in.us, 812-279-3561 ext. 48144

AUTO COLLISION REPAIR CAREER PATHWAYS

GOAL: Auto Collision Repair Pathway

1

- **AUTO COLLISION REPAIR INTRODUCTORY 1-1 (Optional)**

- Course number **6541**

- Grade level: 9-10, 1 period, all year, 2 credits

This is a 1 period option for students to begin their Auto Collision Repair Pathway which can be followed by a 2 period continuation to complete the course the following academic year. The topics covered in this course are detailed in the Auto Collision Repair 1 description directly below.

1

- **AUTO COLLISION REPAIR I***

- Course number **6542, 6543**

- 2-3 period, all year, 4-6 credits

This program emphasizes shop safety and the basic skills needed in the auto collision trade. In addition, instruction is provided on the use of tools and application procedures. The use of visual demonstrations and hands on experiences provide students with an excellent introduction to a career in this exciting field. Dual Credit opportunities are available through Vincennes University.

2

- **AUTO COLLISION REPAIR II***

- Course number **6552, 6553**

- 2-3 periods, all year, 4-6 credits

This program provides training with the latest technology utilizing hands-on experiences in all aspects of vehicle repair and reconditioning including sheet metal work, unibody alignment, mig welding, collision repair, estimating, refinishing and custom painting. Dual Credit opportunities are available through Vincennes University.

*Indicates Dual Credit opportunities.

For more information contact:

Kenny Turner, Auto Collision Repair Instructor, turnerk@nlcs.k12.in.us, 812-279-3561 ext. 48162
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AUTOMOTIVE CAREER PATHWAYS

GOAL: Automotive Technology Pathway

1

- **BASIC AUTOMOTIVE 1-1***

- Course number **6521 IDOE: 5510**

- 1 period, all year, 2 credits

This is a classroom based course designed to explore the Automotive Industry by introducing students to safety, basic hand tools, and parts identification. Students also learn the costs of insurance, car payments, repair estimates, and automotive maintenance. This is a 1 period morning or afternoon class that if taken must be passed to advance on to Automotive Technology AM or PM. Dual Credit opportunities are available through Ivy Tech Community College. This is not a prerequisite for Auto AM or PM.

1

- **AUTOMOTIVE MAINTENANCE & REPAIR AM***

- Course number **6522 or 6523 IDOE: 5510**

- 2-3 periods, all year, 4-6 credits

Students will learn shop safety, tool usage, shop equipment, shop operation along with the basics of steering and suspension, brake systems, engine repair, and engine performance. This is a morning class that the students must pass to advance to the Automotive Technology PM course. Dual Credit opportunities are available through Ivy Tech Community College and Vincennes University.

2

- **AUTOMOTIVE MAINTENANCE & REPAIR PM***

- Course number **6532 or 6533 IDOE: 5546**

- 2-3 periods, all year, 4-6 credits

Students will learn the basics of Automotive safety and tools along with automatic and manual transmissions, electrical systems and heating and air conditioning. This course is an afternoon class that students must pass to advance to the Automotive Technology AM course. Students who qualify may also have the opportunity to participate in the Work Based Learning program which provides on the job training during their second year of the Automotive program.

Dual Credit opportunities are available through Ivy Tech Community College and Vincennes University.

*Indicates Dual Credit opportunities.

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