

Dear Parent, March 11, 2019

North Union High School is focused on preparing students for the world of work. Two thirds of jobs now require training or education beyond high school. A high school diploma is no longer enough to obtain a job that provides a family sustaining wage. Employers are especially desperate for skilled workers with specialized training or at minimum, a 2 year technical degree. Our goal at NUHS is to educate students about careers through our Career & Financial Choices course and to expose students to in-demand career fields through our new/updated career pathways. All pathways align to apprenticeship programs, associate degrees or bachelor degrees so that students understand their next step after high school. Our graduates will be competitive in this new knowledge economy!

Ohio Higher Education Predicts the Need for Education/Training Beyond the High School Diploma: <a href="https://www.ohiohighered.org/attainment">https://www.ohiohighered.org/attainment</a>

Ohio faces a workforce development imperative to address a widely reported mismatch between employer needs and job-seeker knowledge and skills. To successfully compete for business investment and jobs, Ohio must significantly increase the number of its citizens with postsecondary education credentials relevant in the workplace. For Ohio employers to prosper in a global economy, they must have world-class talent with verifiable knowledge and skills aligned with specific workplace needs. And for Ohio citizens to maximize their job, wage and career advancement opportunities, they must possess trusted credentials that reliably document their qualifications and readiness for employment.

That is why we have established a bold statewide goal for educational attainment:

65 percent of Ohioans, ages 25-64, will have a degree, certificate or other postsecondary workforce credential of value in the workplace by 2025.

Attached you will find information about the seven career pathways offered at North Union High School. On the front of each flyer you will find course descriptions and college credit available in each pathway. Examples of occupations within the career fields are listed on the back and include wages based upon levels of education/training. All students are required to identify a career pathway in which they will enroll in one course for next school year or for the junior/senior programs, by the junior year. Additionally, students have the option of applying to the Tri Rivers Career Center to take advantage of their career pathway offerings including the new teacher academy.

If you want to know more or would like to support our career pathways by joining an advisory committee, please feel free to contact me. We are extremely proud of our career focus and welcome your feedback!

lanel Chapman,

NVHS Principal

ichapman@nu-district.org









**Business - NEW school store** Construction



AG - FFA State and National Awards



NEW civil engineering course

# FFA Agribusiness & Production Systems Pathway North Union High School



# Freshman - Senior High School Course of Study & College Credit

**Agri-Science 1 (Agriculture, Food & Natural Resources 010105):** Students learn concepts in animal science such as animal care, nutrition, reproduction, genetics and animal health. They also study record keeping, business technology, parliamentary procedure, safety, leadership and personal development. Approximately six weeks is devoted to skill development in woodworking.

Agri-Science 2 (Animal & Plant Science 010125): Students learn the concepts of plant science, which includes plant anatomy, physiology, chemical processes, reproduction, germination, nutrition, genetics and hydroponics. They also learn concepts of environmental science and the study of soil, air and demonstrate maintenance procedures of small engines. A time period will be allocated for the study and demonstration of welding principles and skills.

**Agri-Production 3 (Mechanical Principles 010120):** Students learn the concepts and operation of agricultural machinery, electricity, grain handling and record keeping. Time will be allotted for construction of projects in the workshop to further improve knowledge and skills in construction.

**Agri-Production 4 (Business Management for Agricultural and Environmental Systems 010115):** Students learn concepts of business management along with the study of taxes, insurance, credit and marketing. Time will be allotted for the construction of projects in the AG shop to further improve knowledge and skills in construction. Seniors who do not plan to participate in the agri-science work experience should sign up for this course.

Agricultural Business/Employability Skills (Work Release): Students learn concepts in working in an agricultural business. This includes business management, business structure, employability skills, customer service, taxes and record keeping. Each student is required to complete 470 hours of job placement at an agricultural related training station. An early release work program is available to qualified students.

Agricultural/Environmental Systems Capstone (010190): For students that wish to demonstrate mastery in Agricultural Education at North Union. The A & E Capstone course is designed for junior/senior students. Students enrolled in this course have completed at least two agricultural education courses prior to enrollment, and are concurrently enrolled in an agricultural education class. This course is designed to reach beyond the classroom walls, tackling current and future agricultural issues, service projects, and independent projects, all in the hope of developing the student to be an advocate for agriculture upon graduation. There will be an emphasis on record keeping through an individualized Supervised Agricultural Experience Program (SAE). Students will use the opportunities that National FFA provide to grow and build upon their interpersonal skills.

Articulated College Credit: AG 106 Agribusiness Fundamentals (3 credit hours) at the University of Northwestern Ohio

Farm and Ranch Managers (minimum 5 yrs experience and high school diploma): Plan, direct, or coordinate the management or operation of farms, ranches, greenhouses, aquacultural operations, nurseries, timber tracts, or other agricultural establishments. May hire, train, or supervise farm workers or contract for services to carry out the day-to-day activities of the managed operation. May engage in or supervise planting, cultivating, harvesting, financial, or marketing activities. The average salary in Ohio is \$75,000. OHIO IN DEMAND CAREER - Rapidly growing over the next few years.

Food Scientists and Technologists (Bachelor Degree-4 yr): Use chemistry, microbiology, engineering, and other sciences to study the principles underlying the processing and deterioration of foods analyze food content to determine levels of vitamins, fat, sugar, and protein discover new food sources research ways to make processed foods safe, palatable, and healthful and apply food science knowledge to determine best ways to process, package, preserve, store, and distribute food. The average salary in Ohio is \$62,000. OHIO IN DEMAND CAREER - Rapidly growing over the next few years.

Soil and Plant Scientists (Bachelor Degree-4 yr): Conduct research in breeding, physiology, production, yield, and management of crops and agricultural plants or trees, shrubs, and nursery stock, their growth in soils, and control of pests or study the chemical, physical, biological, and mineralogical composition of soils as they relate to plant or crop growth. May classify and map soils and investigate effects of alternative practices on soil and crop productivity. The average salary in Ohio is \$53,000. OHIO IN DEMAND CAREER.



For more career information visit:

OhioMeansJobs.com

Click on K-12

### Benefits of the FFA Agribusiness & Production Systems Pathway



Join the NUHS state and nationally recognized FFA Student Organization. NUHS has 235 students involved in FFA. Engage in hands on, challenging, individualized projects. Attend state and national conventions. Develop premier leadership and career skills and experience personal growth. There is something for everyone in AG!

Many agricultural related occupations are IN DEMAND in Ohio and across the country.

Get hands on, real world experience in agriculture/Ag business and find out if this career field is right for you!

Earn articulated college credit to the University of Northwestern Ohio through successful completion of select high school courses.

Complete four AG courses to earn the honor of wearing a make and blue cord at commencement.



# Business & Administrative Services Pathway North Union High School



Freshman - Senior

# **High School Course of Study & College Credit**

Business Foundations (141000): This is the first course for the Business and Administrative Services/Finance and Marketing career fields. It introduces students to specializations within three career fields. Students will obtain knowledge and skills in fundamental business activities. They will acquire knowledge of business processes, economics and business relationships. Students will use technology to synthesize and share business information. Employability skills, leadership, communications, and personal financial literacy will be addressed.

Strategic Entrepreneurship (141030): Students will use innovation skills to generate ideas for new products and services, evaluate the feasibility of ideas, and develop a strategy for commercialization. They will use technology to select target markets, profile target customers, define the venture's mission, and create business plans. Students will take initial steps to establish a business. Students will calculate and forecast costs, break-even, and sales. Establishing brand, setting process, promoting products, and managing customer relationships will be emphasized.

Management Principles (141025): Students will apply management and motivation theories to plan, organize and direct staff toward goal achievement. They will learn to manage a workforce, lead change, and build relationships with employees and customers. Students will use technology to analyze the internal and external business environment, determine trends impacting business, and examine risks threatening organizational success. Ethical challenges, project management and strategic planning will also be addressed. (CCP Credit through Marion Technical College - MGT1400 Intro to Management: 3 credit hours. TAG Course and MGT2210 Human Resource Management: 3 credit hours)

Financial Accounting (143005): In this challenging course, students will track, record, summarize, and report a business's financial transactions. They will develop financial documents, project future income and expenses, and evaluate the accuracy of a business's financial information. Students will also apply tools, strategies, and systems to evaluate a company's financial performance and monitor the use of financial resources. Technology, employability skills, leadership and communications will be incorporated in classroom activities. (CCP Credit through Marion Technical College - ACC1400 Financial Accounting: 3 credit hours. TAG Course)

Upon Completion of an Associate's Degree (2 Yr)

Sales Manager 2 or 4 yr degree & experience: Plan, direct, or coordinate the actual distribution or movement of a product or service to the customer. Coordinate sales distribution by establishing sales territories, quotas, and goals and establish training programs for sales representatives. Analyze sales statistics gathered by staff to determine sales potential and inventory requirements and monitor the preferences of customers. The average salary in Ohio is \$115,000. OHIO IN DEMAND CAREER

Upon Completion of a Bachelor's Degree (4 Yr)

Human Resource Manager: Plan, direct, or coordinate human resources activities and staff of an organization. The average salary in Ohio is \$102,220. OHIO IN DEMAND CAREER

Accountant: Analyze financial information and prepare financial reports to determine or maintain record of assets, liabilities, profit and loss, tax liability, or other financial activities within an organization. The average salary in Ohio is \$102,220. OHIO IN DEMAND CAREER

Financial Manager: Direct and coordinate financial activities of workers in a branch, office, or department of an establishment, such as branch bank, brokerage firm, risk and insurance department, or credit department. The average salary in Ohio is \$111,310. OHIO IN DEMAND CAREER



For more career information visit:

OhioMeansJobs.com

Click on K-12

### **Benefits of the Business Management Pathway**

Gain valuable business and leadership experience through challenging, engaging classroom projects!

Business and business management occupations are IN DEMAND in Ohio and across the country.

Get hands on, real world experience, and find out if this is the career choice for you.

Compete in the Business Professionals of America student competitions.

Earn college credit through successful completion of select high school courses.

Complete all 4 required business management courses to earn the honor of wearing a royal blue cord at commencement.



# Construction Technologies Pathway North Union High School



Junior/Senior Program: 2 period block

# **High School Course of Study & College Credit**

ERESHMAN/SOPHOMORE ELECTIVE Introduction to Construction Trades: Students will be exposed to careers in the construction trades. They will complete basic woodworking projects in the lab using hand tools. (semester elective .50 credit)

FUNIOR YEAR Core and Sustainable Construction (178000): Students will learn principles in basic safety (10-hr OSHA), construction math, hand and power tool care and operation, blueprint reading, material handling, communication and employability skills. An emphasis will be placed on safe and green construction practices.

FUNIOR YEAR Fundamentals of Architecture & Construction (178040) Students will be introduced to the basic principles of architecture and construction. During this course, students will read and create construction drawings and use hand tools to create basic construction projects and models.

SENIOR YEAR Principles of Wood Construction (178030) Students will engage in the introductory skills utilized in working with various wood construction materials. They will learn to use basic measuring tools, hand tools and machines, common to the wood industry, to construct basic projects. Additionally, students will examine various wood construction materials and their properties. Throughout the course, students will learn components of site and personal safety.

SENIOR YEAR Construction Safety and Crew Leadership (178018): This course covers OSHA standards (30 Hr OSHA) and requirements as they apply to the construction industry and crew/project management. Topics include safety and health hazards, safe practices, construction safety management and crew management. Emphasis on hazard identification, avoidance, control and prevention.

SENIOR YEAR (optional) Construction Pre-Apprenticeship/Capstone (178029): The capstone course provides opportunities for students to apply knowledge, attitudes and skills that were learned in construction programs in a more comprehensive and authentic way. Capstones often include project/problem based learning opportunities that occur both in and away from school. Under supervision of the school and through community partnerships, students may combine classroom learning with work experience. This course can be delivered through a variety of delivery methods including cooperative education or apprenticeship.

#### Upon Completion of an Apprenticeship Program

Construction Carpenters: Construct, erect, install, and repair structures and fixtures of wood, plywood, and wallboard, using carpenter's hand tools and power tools. The average salary in Ohio is \$45,000. OHIO IN DEMAND CAREER

Construction Laborers: Perform tasks involving physical labor at construction sites. May operate hand and power tools of all types air hammers, earth tampers, cement mixers, small mechanical hoists, surveying and measuring equipment, and a variety of other equipment and instruments. May clean and prepare sites, dig trenches, set braces to support the sides of excavations, erect scaffolding, and clean up rubble, debris and other waste materials. May assist other craft workers. The average salary in Ohio is \$37,000. OHIO IN DEMAND CAREER

First Line Supervisor of Construction Trades (work experience required): Directly supervise and coordinate activities of construction or extraction workers. The average salary in Ohio is \$61,500. OHIO IN DEMAND CAREER



For more career information visit:

OhioMeansJobs.com

Click on K-12

### Benefits of the Construction Technologies Pathway

Gain valuable experience through challenging, engaging classroom projects!

Construction workers and construction managers are IN DEMAND in Ohio and across the country.

Get hands on, real world experience through the pre apprenticeship experience, and find out if this is the career choice for you.

Compete in the SkillsUSA Student Competitions.

Earn articulated college credit from Columbus State Community College through successful completion of select high school courses.

Earn FREE course advancement through the Ohio Joint Apprenticeship Program to fast track your career!

Complete all 4 construction technologies courses to earn the honor of wearing a silver cord at commencement.



# Engineering Pathway North Union High School



#### Freshman - Senior Program

### High School Course of Study & College Credit

Principles of Engineering POE (Engineering Principles 175002): This course will introduce students to fundamental engineering concepts and scientific principles associated with engineering design applications. Topics include mechanisms, energy, statics, materials, and kinematics. Additionally students will learn material properties and electrical, control and fluid power systems. Students will learn to apply problem solving, research and design skills to create solutions to engineering challenges.

Digital Electronics DE (175007): Students are introduced to the process of combinational and sequential logic design. The system uses a precise sequence of discrete voltages, representing numbers, non-numeric symbols or commands for input, processing, transmission, storage, or display. Engineering standards and methods for technical documentation will also be learned.

Civil Engineering & Architecture (Structural & Mechanical 178020): Students use architectural principles to organize and arrange structures to create a perspective of a building. Students will use orthographic/pictorial projection, freehand technical sketching and computer aided drafting (CAD) skills to generate floor and wall plans, elevations, sections, details and schedules. Students will develop set of architectural framing and mechanical working drawings that include plumbing, HVAC and electrical power and lighting plans.

Introduction to Engineering Design IED (Engineering Design 175001): The focus of Engineering Design is the application of the engineering design process. Topics include work-processes, optimization methods, design optimization, and risk management tools. Students will use 2D and 3D modeling software to help them design solutions to solve proposed problems, document their work, and communicate solutions. Additionally, students will interpret industry prints, and create working drawings from functional models. Emphasis is given to experimental problem solving in real systems. (Recommendation - Completion of Algebra 1 before beginning engineering pathway. Can double up on courses in junior/senior years.)

(CTAG Credit: MET 1200 Computer Aided Drafting)

#### Upon Completion of Associate Degree (2 yr) Occupation Examples

Engineering Technicians: Apply theory and principles of mechanical engineering to modify, develop, test, or calibrate machinery and equipment under direction of engineering staff or physical scientists. The average salary in Ohio is \$50,000. OHIO IN DEMAND CAREER

#### Upon Completion of Bachelor Degree (4 yr) Occupation Examples

Mechanical Engineer: Perform engineering duties in planning and designing tools, engines, machines, and other mechanically functioning equipment. Oversee installation, operation, maintenance, and repair of equipment such as centralized heat, gas, water, and steam systems. The average salary in Ohio is \$75, 000. OHIO IN DEMAND CAREER

Civil Engineer: Perform engineering duties in planning, designing, and overseeing construction and maintenance of building structures, and facilities, such as roads, railroads, airports, bridges, harbors, channels, dams, irrigation projects, pipelines, power plants, and water and sewage systems. The average salary in Ohio is \$76,000. OHIO IN DEMAND CAREER



For more career information visit:

OhioMeansJobs.com

Click on K-12

#### **Benefits of the Engineering Pathway**

Gain valuable engineering experience through challenging, engaging classroom projects! Apply your skills through optional participation in our state and world class VEX Robotics Club.

Engineers and engineering technicians are IN DEMAND in Ohio and across the country.

Get hands on, real world experience through the engineering job shadow experience, and find out if this is the career choice for you.

Compete in the Technology Student Association competitions.

Earn articulated college credit through successful completion of select high school courses.

Complete all 4 engineering courses to earn the honor of wearing an orange cord at commencement.



# Interactive Media & Marketing Pathway North Union High School



Freshman - Senior

# **High School Course of Study & College Credit**

Interactive Media I (Creating and Editing Digital Graphics 145100): Students will learn to design, develop, and produce interactive media projects, websites, and social media contexts. Students will demonstrate methods of creating professional quality media using commercial and open source software. (CCP Credit through Marion Technical College - OIS 1620 Digital Image Manipulation: 3 credit hours. TAG Course)

Interactive Media II (Design Techniques 145095): Students will learn techniques for transforming photographic images through the use of digital cameras, computers and mobile devices. To accomplish this, they will learn software photo editing techniques including layering, color correction, masking, and special effects using current commercial and open source programs and applications.

Interactive Media III (Multimedia and Image Management Techniques 145105): Students will apply principles of image creation, management procedures, and multimedia techniques as they create, revise, optimize, and export graphics for video, print and web publishing. This course will address issues related to web based publishing, social media, and security. Students will utilize current commercial and open source language, programs, and applications.

Interactive Media IV (Video & Sound 145110): Students will create professional video and audio productions for distribution in traditional and new media channels. Students will plan, produce, edit and launch media products. Students will develop scripts and storyboards, compose shots and operate cameras, capture sounds using microphone hardware, apply special effect techniques, and edit to achieve the final product. Students will be able to use animation and graphic design for video.

#### Upon Completion of an Associate Degree (2 Yr)

Web Developer: Design, create, and modify Web sites. Analyze user needs to implement Web site content, graphics, performance, and capacity. May integrate Web sites with other computer applications. May convert written, graphic, audio, and video components to compatible Web formats by using software designed to facilitate the creation of Web and multimedia content. The average salary in Ohio is \$56,000. OHIO IN DEMAND CAREER

#### Upon Completion of a Bachelor Degree (4 Yr)

Graphic Designer: Design or create graphics to meet specific commercial or promotional needs, such as packaging, displays, or logos. May use a variety of mediums to achieve artistic or decorative effects. The average salary in Ohio is \$44,000. OHIO IN DEMAND CAREER

Multimedia Artists and Animators: Create special effects, animation, or other visual images using film, video, computers, or other electronic tools and media for use in products or creations, such as computer games, movies, music videos, and commercials. The average salary in Ohio is \$54,000



For more career information visit:

OhioMeansJobs.com

Click on K-12

# Benefits of the Interactive Media & Marketing Pathway

Gain valuable media and marketing experience through challenging, engaging classroom projects!

Media/marketing occupations are IN DEMAND in Ohio and across the country.

Get hands on, real world experience, and find out if this is the career choice for you.

Compete in the Business Professionals of America (BPA) student competitions.

Earn college credit through successful completion of select high school courses.

Complete all 4 interactive media & marketing courses to earn the honor of wearing a green cord at commencement.



# Pre-Nursing Studies Pathway North Union High School



# Junior/Senior Pathway: 2 Period Block High School Course of Study & College Credit

**FRESHMAN/SOPHOMORE ELECTIVE Introduction to Healthcare Professions:** Students will research and learn about a variety of in demand healthcare professions. (semester elective .50 credit)

JUNIOR YEAR Patient Centered Care (072050): Students will apply psychomotor nursing skills needed to assist individuals in meeting basic human needs. Students will implement interventions following a nursing assistant plan of care. Students will collect patient's vital signs including temperature, pulse rate, respiration rate, and blood pressure. Students will perform phlebotomy procedures with emphasis on infection prevention, universal precautions, proper patient identification, specimen acquisition, handling, and processing. Additionally, students will observe patients' physical, mental, and emotional conditions and document any change. Earn Industry Credential: STNA A state tested nursing assistant (STNA) holds an entry-level position in the medical field. STNAs work in a variety of medical settings, including hospitals, retirement homes, and as home health aides. STNAs assist nurses, doctors, and other health care staff to provide for a patient's medical care. (Earn 3 articulated credits to Marion Technical College)

JUNIOR YEAR Medical Terminology (072150): This course focuses on the applications of the rules for constructing and defining medical terms with an emphasis on building a working medical vocabulary. Topics include using the appropriate abbreviations and symbols for anatomical, physiological and pathological classifications and the associated medical specialties and procedures. Students will decipher medical terms by identifying and using word elements with an emphasis on derivation, meaning, and pronunciation. Further, students will interpret and translate medical records and documents.

SENIOR YEAR Human Anatomy and Physiology (072040): In this course, students will demonstrate knowledge of body systems with emphasis on the interrelationships between structure and physical function. Students will analyze and evaluate how the body systems respond to physical activity, disease, and aging. Students will use data acquisition software to monitor abnormal physiology and body functions (e.g., muscle movement, reflex, respiratory, and voluntary actions). Further, students will analyze descriptive results of abnormal physiology and evaluate clinical consequences.

SENIOR YEAR Principles of Allied Health (072035): Students will apply knowledge and clinical skills necessary to assess, plan, provide, and evaluate care to patients in varied healthcare settings. Students will apply first aid principles and techniques needed for response to choking, cardiopulmonary resuscitation, and other life-threatening emergencies. Emphasis will be placed on regulatory compliance, patient safety, pathophysiology, and medical interventions. Earn Industry Credentials: First Aid & CPR

Upon high school graduation/STNA Certification: In the state of Ohio, STNAs (also known as Certified Nursing Assistants) typically can expect to earn between \$25,000 and \$31,000 annually. Provide basic patient care under direction of nursing staff. Perform duties such as feed, bathe, dress, groom, or move patients, or change linens. May transfer or transport patients. Includes nursing care attendants, nursing aides, and nursing attendants. OHIO IN DEMAND CAREER - 2,700 projected openings.

Upon the completion of a 2 or 4 year nursing degree: The average RN salary in Ohio is \$61,750, or about \$29.69 per hour. Assess patient health problems and needs, develop and implement nursing care plans, and maintain medical records. Administer nursing care to ill, injured, convalescent, or disabled patients. May advise patients on health maintenance and disease prevention or provide case management. Licensing or registration required. OHIO IN DEMAND CAREER - 4,830 projected openings with projected growth over several years.

Additional OHIO IN DEMAND Healthcare Careers: paramedics, critical care nurses, acute care nurses, clinical care nurse, surgical assistants, nurse practitioners, licensed practical nurses, internist general (doctor), family/general practitioners (doctor), sports medicine physicians, rehabilitation physicians, pharmacists, opthamologists, dermatologists and more!



For more career information visit:

OhioMeansJobs.com

Click on K-12

### **Benefits of the Pre-Nursing Studies Pathway**

Earn the STNA Industry Credential - Begin working in the career field upon high school graduation and earn higher than minimum wage. Plus, the STNA classes are free of charge at NUHS.

Healthcare professionals are IN DEMAND in Ohio and across the country.

Get hands on, real world experience in healthcare facilities, and find out if this is the career choice for you.

Earn articulated college credit to Marion Technical College through successful completion of select high school courses.

Complete all 4 pre-nursing courses to earn the honor of wearing a crimson cord at commencement.



# College Credit Plus Pathway North Union High School



Ohio's College Credit Plus can help you earn college and high school credits at the same time by taking college courses from community colleges or universities. The purpose of this program is to promote rigorous academic pursuits and to provide a wide variety of options to college-ready students. Taking a college course from a public college or university is free. That means no cost to the family of public and private school students for tuition, books or fees. If you choose to attend a private college or university, you may have limited costs.

The North Union High School Course Plan Book describes all of the Marion Technical College courses that are offered at NUHS. Please read carefully about the testing requirements and deadlines associated with College Credit Plus to ensure that you are eligible to participate in the program. Students selecting College Credit Plus as their career pathway must complete 30 college credit hours during the last two years of high school.

For more information about Ohio's College Credit Plus Program visit: www.ohiohighered.org

### Benefits of the College Credit Plus Pathway

Earn up to 120 free college credit hours! The Marion Technical College Courses offered at NUHS are accepted at state supported colleges and universities. Many private schools will also accept these credits.

Students may elect to take courses at NUHS, online or on a college campus.

Students earn high school credit for these college courses. Some college courses substitute for high school courses.

Complete 30 college credit hours to earn the honor of wearing a black cord at commencement.

Students can get a jump start on their college degree and experience the pace and rigor of college courses.

College Credit Plus is free! Students save time and money by completing college courses while in high school.



		8 1	
30			