Banner County High School
Course Offerings
2024-2025

In addition to these offerings, we have extensive additional course offerings available to Banner County High School students through our agreements with VALTS (Valley Alternative Learning Transitioning School) and WNCC (Western Nebraska Community College).

AGRICULTURE, FOOD AND NATURAL RESOURCES

Ag Leadership

AGRICULTURAL LEADERSHIP AND CAREER READINESS 017000

Instruction provided in a semester long leadership, human resource development and related careers course includes leadership in a community, leadership concepts/applications, characteristics of an effective leader, characteristics of an effective manager and related practicum demonstrating contribution to society. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.

Recommended Level: Grades 10-12

Career Cluster: Agriculture, Food and Natural Resources

Agribusiness

AGRIBUSINESS 011009

This course covers skills necessary for entry into employment or furthering education in an agricultural business. The course includes the study of business planning, creating and analyzing financial information, developing business plans, and using sales and marketing principles. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.

Recommended Level: Grades 10-12

Career Cluster: Agriculture, Food and Natural Resources

Animal Science

ANIMAL SCIENCE 011004

A course focusing on the basic scientific principles and processes that are involved in animal physiology, breeding, nutrition, and care in preparation for an animal systems career. Topics include animal diseases, introduction to animal science, animal nutrition, animal science issues, career opportunities and animal evaluation. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.

Recommended Level: Grades 10-12

Career Cluster: Agriculture, Food, and Natural Resources

Horticulture

NURSERY MANAGEMENT 012001

This course examines the knowledge and skills needed to identify, produce, and manage horticultural plants. Topics include plant identification and production, nursery management, and development of schedules and estimates. Classroom and laboratory activities are supplemented through supervised agricultural experiences and FFA leadership programs & activities.

Recommended Level: Grades 9-12

Career Cluster: Agriculture, Food, and Natural Resources

Intro to Ag

INTRODUCTION TO AG, FOOD & NATURAL RESOURCES 011000

The introductory course for the Agriculture, Food and Natural Resources Career Cluster providing a knowledge base and technical skills in all aspects of the industry. Learners will be exposed to a broad range of agriculture, food and natural resources careers, cluster foundation knowledge and skills, introduction to leadership development, the FFA organization and career exploration. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.

Recommended Level: Grades 9-12

Career Cluster: Agriculture, Food, and Natural Resources

Intro to Ag Mechanics

POWER, STRUCTURAL AND TECHNOLOGY SYSTEMS FUNDAMENTALS 016000

This course is designed to provide students with introductory level experiences in selected major areas of agricultural mechanics technology which may include woodworking, agricultural structures, electrical wiring, introductory arc welding, oxy/fuel cutting and welding processes, and power equipment operation and maintenance.

Learning activities include information, skill development, and problem solving. Classroom and laboratory activities are supplemented through supervised agricultural experience and FFA leadership programs & activities.

Recommended Level: Grades 10-12

Career Cluster: Agriculture, Food, and Natural Resources

Metals and Fabrication

METALS AND FABRICATION 016005

This course provides an in-depth study of metals and fabrication with metal products. It also provides the opportunity to explore the careers in agricultural metal fabrication. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.

Recommended Level: Grades 10-12

Career Cluster: Agriculture, Food and Natural Resources

Plant Science

PLANT SCIENCE 011007

This course examines the scientific concepts related to plant systems. Students will consider environmental factors on plant growth. In addition students will examine plant classification, anatomy, physiology, and methods of propagation. Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.

Recommended Level: Grades 10-12

Career Cluster: Agriculture, Food, and Natural Resources

Welding

WELDING 016004

This course provides in-depth study of metal and fabrication with metal products. It also provides the opportunity to explore the careers of agricultural metal fabrication.

Classroom and laboratory activities are supplemented through supervised agricultural experiences and leadership programs and activities.

Recommended Level: Grades 10-12

Career Cluster: Agriculture, Food and Natural Resources.

BUSINESS, MARKETING AND MANAGEMENT

Accounting 1 & 2

ACCOUNTING 1 030501 ACCOUNTING 2 030502

These semester-long courses covers a service business organized as a sole proprietorship which will include accounting principles involved in the preparation and maintenance of financial records concerned with business management and operations. It is a comprehensive introduction to basic accounting including recording, summarizing and reporting, principles of income measurement and asset valuation, and accounting systems and controls. Students are exposed to careers in the accounting field and are given the opportunity to perform accounting applications using technology.

Recommended Level: Grades 9-12

Career Cluster: Business, Marketing and Management

Accounting 3 & 4

ACCOUNTING 3 030503 ACCOUNTING 4 030504

These semester-long courses cover concepts of a merchandising business, which will include accounting principles involved in the preparation and maintenance of financial records concerned with business management and operations. It is a comprehensive introduction to basic accounting including payroll, related career opportunities, application of generally-accepted accounting principles related to recording, summarizing and reporting, principles of income measurement and asset valuation, and accounting systems and controls. Students are exposed to careers in and related to the accounting field and are given the opportunity to perform accounting applications using technology. Accounting 1 is a recommended prerequisite to this course.

Recommended Level: Grades 10-12

Career Cluster: Business Administration

Entrepreneurship

ENTREPRENEURSHIP 032370

Entrepreneurship is a course with emphasis on the evaluation of the business skills and commitment necessary to successfully operate an entrepreneurial venture and review the challenges and rewards of entrepreneurship. The role of entrepreneurial businesses in the United States and the impact on the national and global economy will be explored. Work-based learning strategies could be included through the development of a business plan, operation of school-based enterprise, or actual creation of a student-run business.

Recommended Level: Grades 9-12

Career Cluster: Business Management And Administration

Marketing

Entrepreneurship - High Energy

FUNDAMENTALS OF ENTREPRENEURSHIP 320600

Fundamentals of Entrepreneurship is a course designed for students to explore the characteristics of an entrepreneur within any of the six career fields. Students will analyze opportunities in entrepreneurship. Emphasis is on understanding the forms of business ownership and reviewing the challenges and rewards of entrepreneurship. The role of entrepreneurial businesses in the United States and the impact on the local, regional and national economy will be explored. Students will identify and understand the rationale of a start-up business plan.

Recommended Level: Grades 9-12

Career Cluster: Career Development and Exploratory Courses

Introduction to Business

INTRODUCTION TO BUSINESS 032300

This course is designed to introduce students to the Business, Marketing, and Management Career Field, which focuses on organization, economics, management, marketing, financial management, and operations. Career opportunities and technology will also be used and discussed.

Recommended Level: Grades 9-12

Career Cluster: Business Management and Administration

Personal Finance

PERSONAL FINANCE 033000

The goal of Personal Finance is to help students to become financially responsible, conscientious members of society. To reach that end, this course develops student understanding and skills in such areas as income, money management, budgeting, financial goal attainment, the wise use of credit, insurance, and investments.

Recommended Level: Grades 11-12

Career Cluster: Finance, Business Management and Administration

CAREER EDUCATION FOUNDATIONAL AND SPECIALTY

JAG (Jobs for American Graduates)

HIGH SCHOOL CAREER DEVELOPMENT 320101

This course helps students explore career options, identify interests, and develop skills that prepare them for post-secondary education and entry-level careers. Course components include on-site employer tours, hands-on activities, job shadowing, leadership simulations, and conferences.

Work-based Learning

OTHER WORK-BASED LEARNING CLASS 320700

A class that provides students the opportunity to connect what they learn in school with worksite application. Students are placed in an occupation that best relates to their career interest and aptitude. The school and business community work together to plan activities that will enable each student to apply the knowledge, attitudes and skills learned in the classroom to actual business situations and positions.

This course must be a part of a Work-based Learning Program.

Recommended Level: Grades 11-12

Career Cluster: Career Development and Exploratory Courses

COMMUNICATION & INFORMATION SYSTEMS

Computer Science Essentials

PROJECT LEAD THE WAY – COMPUTER SCIENCE ESSENTIALS 270710

In Computer Science Essentials, students will use visual, block-based programming and seamlessly transition to text-based programming with languages such as Python to create apps and develop websites, and learn how to make computers work together to put their design into practice. They'll apply computational thinking practices, build their vocabulary, and collaborate just as computing professionals do to create products that address topics and problems important to them. Computer Science Essentials helps students create a strong foundation to advance to Computer Science Principles, Computer Science A, and beyond.

Recommended Level: Grades 9-10

Career Cluster: Information Technology

Computer Science Principles

PROJECT LEAD THE WAY - COMPUTER SCIENCE PRINCIPLES 270708

Using Python® as a primary tool and incorporating multiple platforms and languages for computation, this course aims to develop computational thinking, generate excitement about career paths that utilize computing, and introduce professional tools that foster creativity and collaboration. Computer Science Principles helps students develop programming expertise and explore the workings of the Internet. Projects and problems include app development, visualization of data, cybersecurity, and simulation. PLTW is recognized by the College Board as an endorsed provider of curriculum and professional development for AP® Computer Science Principles (AP CSP). This endorsement affirms that all components of PLTW CSP's offerings are aligned to the AP Curriculum Framework standards and the AP CSP assessment.

Recommended Level: Grades 9-12

Career Cluster: Information Technology

Digital Media

DIGITAL MEDIA 270602

Students will create, design and produce digital media including sound, video, graphics, text, and animation. Emphasis will be placed on effective use of tools for interactive multimedia production including storyboarding, visual development, project management and web processes.

Recommended Level: Grades 9-12

Career Cluster: Information Technology and Communication Arts

Introduction to Computer Science and Technology

DIGITAL MEDIA 270415

This course is designed to provide students with a broad understanding of essential topics in the field of Computer Science and Technology. By the end of the course, students will have learned about computer literacy best practices, digital citizenship, cybersecurity, and computational thinking through programming literacy.

Recommended Level: Grades 9-12

Career Cluster: Information Technology

Web Design

FOUNDATIONS OF WEB DESIGN 270604

Students will demonstrate knowledge of web design and languages, including HyperText Markup Language (HTML) and Cascading Style Sheets (CSS) to create a content rich and visually pleasing website that captures and keeps visitors' interests. Focus will be given to effective page layout, image creation and manipulation, interactivity, content creation, and project management.

Recommended Level: Grades 10-12

Career Cluster: Information Technology and Communication Arts

EDUCATION AND TRAINING

Best Practices in Education

BEST PRACTICES IN EDUCATION AND TRAINING WITH WBL 350002

This intermediate course will focus on best practices in education building on concepts from the introductory courses. Topics covered include instructional and assessment methods, differentiated instruction, development of communication skills necessary for educators, and instruction planning. Knowledge and skills will be applied within a structured work-based learning experience, which may take place in a school, community, or business and industry setting. The focus of the hands-on experience will be immersion in an educational setting.

Recommended Level: Grades 9-12

Career Cluster: Education and Training

Education and Training Practicum

EDUCATION AND TRAINING PRACTICUM WITH WORK-BASED LEARNING 350003

This capstone course will focus on the thought processes needed in education building on concepts from the introductory and intermediate courses. Topics covered include ethics in education, instructional strategies, equitable learning opportunities, and effective, inclusive communication. Knowledge and skills will be applied within a structured work-based learning experience, which may take place in a school, community, or business and industry setting. The focus of the practicum experience will be on the improvement of instructional strategies.

Recommended Level: Grades 10-12

Career Cluster: Education and Training

Teaching as a Profession

TEACHING AS A PROFESSION 350001

This introductory course is designed to introduce students to career opportunities and related skills in the field of education and training. Topics covered include history of education, the philosophy of education, roles of educators, instructional and

assessment methods, diversity of cultures and communities, learner development, and professional development.

Recommended Level: Grades 9-12

Career Cluster: Education and Training

ENGLISH LANGUAGE ARTS

English I

ENGLISH I 050021

Study concerned with developing: 1) an understanding of the language system, 2) proficiency and control in the use of the English forms and 3) appreciation of the variety of literary forms, etc. The normal goals of instruction are an understanding of the use of composition, language and literature by the students.

Generally appropriate for 9th grade students.

English II

ENGLISH II 050022

Study concerned with developing: 1) an understanding of the language system, 2) proficiency and control in the use of the English forms and 3) appreciation of the variety of literary forms, etc. The normal goals of instruction are an understanding of the use of composition, language and literature by the students.

Generally appropriate for 10th grade students.

English III

ENGLISH III 050023

Study concerned with developing: 1) an understanding of the language system, 2) proficiency and control in the use of the English forms and 3) appreciation of the variety of literary forms, etc. The normal goals of instruction are an understanding of the use of composition, language and literature by the students.

Generally appropriate for 11th grade students.

English IV

ENGLISH IV 050024

Study concerned with developing: 1) an understanding of the language system, 2) proficiency and control in the use of the English forms and 3) appreciation of the variety of literary forms, etc. The normal goals of instruction are an understanding of the use of composition, language and literature by the students.

Generally appropriate for 12th grade students.

English Composition I (Dual-Credit)

ENGLISH LANGUAGE ARTS, OTHER 059930

This course offers instructional practice in the techniques of effective writing. The process of planning, writing, revising, and editing essays for specific audiences and purposes and research-related skills are also emphasized. It is a dual-credit course offered through WNCC and students must meet WNCC's prerequisites to register for the course.

English Composition II (Dual-Credit)

ENGLISH LANGUAGE ARTS, OTHER 059930

In this course, students will read and analyze various texts and respond with research-based, argumentative essays that demonstrate information literacy, critical-reading, and source integration. A significant argument-based research project is required.

Journalism I

JOURNALISM I 050401

This course introduces students to the concept of newsworthiness and press responsibility; develops students' skills in writing and editing stories, headlines, and captions; and teaches students the basis of production design, layout, and printing of a publication such as school newspapers, year books and literary magazines.

Journalism II

JOURNALISM II 050402

This course provides students practice in advanced journalistic techniques and involves them in the formation and/or management of the production team. This course may include the production of a school newspaper, yearbook, or literary magazine and may include elements of photography, photojournalism, and exploration of opportunities for careers in journalism.

Speech

SPEECH, BEGINNING 050501

An introductory course in oral communication. Emphasized are intra and inter- personal communication through activities in group discussion, audience analysis, speech organization and delivery.

Yearbook

YEARBOOK 050061

Yearbook courses help students develop basic or advanced skills in one or more of the following areas: 1) photography and editing, 2) page layout and design, 3) publishing techniques, 4) copy writing, 5) interviewing techniques, 6) production management, and 7) sales and marketing promotions.

FINE ARTS (ART)

Art I

ART I 020100

The curriculum includes activities and experiences designed to develop skills in working with a variety of artistic techniques, processes, and media. The curriculum relates art to the individual student, culture, history, and to other curricular areas.

Art II

ART II 020200

A second course in Art. In-depth considerations of design and composition, with extended experiences in two and three dimensional work; may be in 9-week segments emphasizing, for example:

Drawing

Painting

Printmaking

Pottery/Ceramics

Sculpture

Photography

Further consideration of art appreciation, theory, and history may be included at this level.

Art III

ART III 020300

An extension of the experiences provided in Art II with the opportunity for increasing specialization. Specialized courses in art appreciation, theory and history should be designated with this title.

Art IV

ART IV 020400

Independent, advanced study in art.

FINE ARTS (MUSIC)

Concert Band

INSTRUMENTAL MUSIC 120500

The study of instrumental music skills through solo and group performance in larger ensembles of students such as concert, marching, and jazz band, and full or string orchestra.

Music Composition/Songwriting

MUSIC COMPOSITION/SONGWRITING 120807

Composition/Songwriting courses prepare students to express themselves through creating music. These courses may use conventional or unconventional notation and may include instrumental and vocal music. Along with musical instruments and vocals, technology may be used for creating, recording, and performing music. Courses may include focus on composition for use in emerging media arts (e.g., film, animation, and gaming). Students will also perform compositions formally or informally and respond to music created in the classroom.

Recommended Level: 9-12

Music Appreciation

MUSIC HISTORY/APPRECIATION 120103

Music History/Appreciation courses survey different musical styles and periods with the intent of increasing students understanding of music and its importance in relation to the human experience. Music History/Appreciation courses may focus on how various styles of music apply musical elements to create an expressive or aesthetic impact. Students also have the ability for informal music performance and creation within the classroom.

Recommended Level: 9-12

Music Theory

MUSIC THEORY 120804

Music Theory courses provide students with an understanding of the fundamentals of music and include the following topics: composition, arranging, analysis, aural development, and sight reading.

Recommended Level: 9-12

Chorus

VOCAL MUSIC 120400

Learning experiences designed for vocal repertoire and vocal skills through solo and group performance in ensembles of students such as a choir, chorus and swing choir/show choir.

Recommended Level: 9-12

HEALTH SCIENCES

Certified Nursing Assistant (CNA-dual credit)

NURSING ASSISTANT/CNA 077400

This is a basic nursing knowledge and skills course for the nurse assistant in a health care setting. It meets the requirements of Public Law 100-203 OBRA and is approved by the Nebraska Department of Health. This course is required to be taught by a R.N. or B.S.N. in order for students to receive high school credit, arrangements need to be made to insure teaching certification. This course may be available for dual credit at a postsecondary institution.

Classroom, laboratory and educational leadership activities are supplemented through Nebraska HOSA/Future Health Professionals, Career Student Organization.

Recommended Level: Grades 9-12

Career Cluster: Health Sciences

Medication Aide

MEDICATION AIDE CERTIFICATION 077401

Medication Aide is a course in which an individual receives training in administering medications. This course has a minimum requirement of 40 hours, and students must be 18 years of age in order to sit for the written exam administered by the state board of Health and Human Services. This course must be taught by an R.N. licensed in QMA.

Recommended Level: Grades 11-12

Career Cluster: Health Sciences

Medical Terminology

MEDICAL TERMINOLOGY 077600

This course is designed to help students learn medical language by analyzing its components. The primary focus is on developing both oral and written skills in the language used to communicate within health care professions. This course is a fundamental course for students who are pursuing a career in the healthcare

profession. It is the basic language required for all areas of health science and is required for any health care profession beginning with entry level staff.

Recommended Level: Grades 9-12

Career Cluster: Health Sciences

HUMAN SCIENCES/FCS

Culinary Skills 1

CULINARY SKILLS 1 370021

This intermediate course focuses on culinary skills development building on concepts from the introductory course. Topics covered include planning, preparing, and marketing a variety of menu items following industry standards. Technical skills will be developed through the use of professional tools and equipment.

Recommended Level: Grades 9-12

Career Cluster: Hospitality and Tourism

Culinary Skills 2

CULINARY SKILLS 2 370022

This capstone course focuses on the application of culinary skills building on concepts from the introductory and intermediate courses. Topics covered include restaurant marketing, menu management, cost control, breakfast cookery, fruits and vegetables, potatoes/grains/pastas, meat/poultry/seafood, plating/garnishing, and global cuisines. Developing a restaurant business management plan and implementing food service management principles are also covered.

Recommended Level: Grades 10-12

Career Cluster: Hospitality and Tourism

Fundamentals of Food & Nutrition

FUNDAMENTALS OF FOOD AND NUTRITION 090107

This course is designed to provide students with the base foundation knowledge of food selection and preparation needed to successfully fuel the human body through consumption of food and resulting food energy. With a beginning foundation of nutrition, students will learn basic preparation skills and the short-term and long-term

wellness consequences as a result of nutritional intake, and exposure to careers related to the food industry.
Classroom, laboratory and educational leadership activities are supplemented through Nebraska FCCLA Career Student Organization.

Recommended Level: Grades 9-12

Career Cluster: Human Services

Intro to FACS

INTRODUCTION TO FAMILY AND CONSUMER SCIENCES 090101

This course is intended to enable students to have a broad scope of experiences as an overview of family and consumer sciences. Students will explore career possibilities and develop a personal learning plan. Students will practice basic life and career readiness skills and learn to apply them to personal life situations.

Classroom, laboratory and educational leadership activities are supplemented through Nebraska FCCLA Career Student Organization.

Recommended Level - Grades 9 -10

Career Cluster - Human Services

HUMAN SERVICES

Interpersonal Relationships

INTERPERSONAL RELATIONSHIPS 090116

This capstone course focuses on the effect of interpersonal relationships building on concepts from the introductory and intermediate courses. The course includes concepts such as effective communication, establishing and maintaining relationships, diverse family systems, characteristics of personal development, and the impact of relationships on personal and career success. The impact of relationships on the wellbeing of individuals, families, work, and society will also be explored.

Recommended Level: Grades 10-12

Career Cluster: Human Services

Life and Career Readiness

LIFE AND CAREER READINESS 090104

This course is designed to prepare students for responsibilities in a home, family, and work environment. Personal and career development will be expanded. Topics covered include adult roles and responsibilities, goal setting, decision making, communication, leadership, personal finance, consumer skills, and personal wellness.

Recommended Level: Grades 11-12

Career Cluster: Human Services

MATHEMATICS

Algebra A

PRE-ALGEBRA 110299

This course focuses on developing key concepts of numbers and operations that enable students to rebuild foundational skills using algebraic thinking. Numerical understanding and reasoning skills will be applied using multiplication, division, fractions, decimals, and integers.

Algebra B

ALGEBRA, BEGINNING 110300

This course builds on students' foundational skills around numbers and operations. Instruction is adjusted according to students' developmental and academic needs to build and focus on proportional, linear, and functional reasoning.

Algebra I

ALGEBRA, BEGINNING 110300

An organization of mathematics subject matter concerned primarily with introductory study of properties of number systems (real number, complex numbers). Topics studied include algebraic expressions and symbols, operations of reals (addition, multiplication, inverse operations), binomials, absolute values, proofs, and functions.

Algebra II

ALGEBRA, ADVANCED 110306

An organization of mathematics subject matter concerned primarily with intermediate and advanced study of properties of number systems (real numbers, complex numbers). Topics studied include graphing in two and three dimensions, set notations, polynomials, exponential notion and operations with exponents, upper and lower bounds, continued sums, matrices, vectors, limits, continuous functions, complex number, combinations, and permutations.

Applied Math

APPLIED MATHEMATICS I 110501

This course includes concepts found in general mathematics and beginning algebra with emphasis on problems and lab experiences which have everyday relevance. Concepts include using ratio and proportion, powers and roots, and formulas to solve problems.

Geometry

GEOMETRY 111200

The branch of mathematics concerned with geometric figures in the plane and in space. Geometry emphasizes the use of logic in establishing proofs.

PERSONAL HEALTH & PHYSICAL FITNESS

Health

FOUNDATIONS OF HEALTH EDUCATION 080102

Foundations of Health Education is designed to help students learn how their bodies function, what affects their bodies and how to make positive choices related to their health. This course is comprehensive and progressive, promoting understanding of health-related knowledge and responsibility for decisions that affect one's health. The course focuses on risk reduction and healthy protective factors and health promotion through identifying risk behaviors to your personal health including dietary habits, tobacco and vaping use, alcohol and drug use, physical inactivity, intentional and unintentional injuries as well as risky sexual behavior. Through identifying these risk factors, the course aims to develop an understanding of how you can utilize skills and knowledge to promote your overall personal health.

Lifetime Activities

LIFETIME ACTIVITIES 080120

This course includes basic skills, knowledge and strategies of lifetime activities that contribute to a healthy, active adult lifestyle. Students will participate in a variety of lone, duo, and group lifetime activities.

PE 9

INTRODUCTION TO STRENGTH & CONDITIONING 080111

This course is designed for the beginning weight training student and focuses on the development of knowledge and skills utilizing free weights or resistance machines. It includes proper lifting techniques, spotting methods, weight room safety, and workout routines.

Strength and Conditioning

INTERMEDIATE STRENGTH & CONDITIONING 080112

This course is designed for the intermediate weight training student. It builds on Introduction to Strength and Conditioning by applying basic strength principles and concepts of proper lifting techniques, spotting methods, weight room safety, and workout routines to the intermediate weight training student. The principles of training (progression, overload, specificity, regularity and individuality) are incorporated into this course.

SCIENCE

Anatomy & Physiology

ANATOMY and PHYSIOLOGY 130210

The branch of Biology that relates to the structure and relationship between body parts and the relationship between the function of body parts and the body as a whole.

Astronomy

ASTRONOMY 130312

This course introduces students to the basic laws of motion and gravity, the concepts of modern astronomy, and the methods scientists use to explore the universe. Additional topics of exploration may include: the solar system, the sun and stars, the Milky Way and other galaxies, and origins of the universe.

Biology

BIOLOGY 130201

The study of the cell, molecular basis of heredity, biological evolution, interdependence of organisms, matter, energy and organization in living systems, and behavior of organisms. Students should develop the ability to think and act in ways associated with scientific inquiry.

Conceptual Physics

CONCEPTUAL PHYSICS 130417

Conceptual Physics courses introduce students to the use of chemicals, characteristic properties of materials, and simple mechanics to better describe the world and nonliving matter. The courses emphasize precise measurements and descriptive analysis of experimental results. Topics covered may include energy and motion, electricity, magnetism, heat, the structure of matter, and how matter reacts to materials and forces.

Chemistry

CHEMISTRY 130301

The study of the structure of atoms, structure and properties of matter, and chemical reactions. Students should develop the ability to think and act in ways associated with scientific inquiry.

Geoscience

GEOSCIENCE 130415

The study of energy in the earth systems, geochemical cycles, and origin and evolution of the earth system and universe. Students should develop the ability to think and act in ways associated with scientific inquiry.

Physical Science

PHYSICAL SCIENCE 130300

Study of the major topics, concepts, processes and interrelationship of basic chemistry and physics. Students should develop the ability to think and act in ways associated with scientific inquiry.

Physics

PHYSICS 130303

The study of motions and forces, conservation of energy and increase in disorder, and interactions of energy and matter. Students should develop the ability to think and act in ways associated with scientific inquiry.

SKILLED AND TECHNICAL SCIENCES

Advanced Robotics

ADVANCED ROBOTICS 103195

This course is a capstone experience in which students engineer robot solutions to complete a task. This includes design, construction, and programming a robot.

Recommended Level: Grades 11-12

Career Cluster: Energy and Engineering (CEENEG)

Aerospace Engineering

AEROSPACE ENGINEERING 100164

Aerospace Engineering (AE) includes the study of the engineering discipline which develops new technologies for use in aviation, defense systems, and space exploration. The course explores the evolution of flight, flight fundamentals, navigation and control, aerospace materials, propulsion, space travel, orbital mechanics, ergonomics, remotely operated systems and related careers. In addition the course presents alternative applications for aerospace engineering concepts.

Recommended Level: Grades 10-12

Energy and Engineering

Drafting and Design

DRAFTING AND DESIGN 100130

This introductory course builds the skills necessary to understand ideas being communicated through drawings and documents, and in turn, convey ideas, duties, and tasks to others in a form representing the industry. Students will use and follow industry-specific verbal and visual skills to accomplish workplace/ jobsite communications. Students will review traditional project phases and various roles within them to plan for and implement phases within a project. Students will develop working drawings that will be used in design and manufacturing. Computer-aided drafting/design (CADD) may be used.

Recommended Level: Grades 9-12

Manufacturing

Engineering Design and Systems Thinking

ENGINEERING DESIGN AND SYSTEMS THINKING 103191

This course gives students the opportunity to develop skills and understanding of engineering. Students will learn about various elements of engineering design and how engineering requires systematic thinking. Topics will include safety, tools, math and science concepts, and engineering principles and processes.

Recommended Level: Grades 9-12

Energy and Engineering

Engineering Design and Development

ENGINEERING DESIGN AND DEVELOPMENT 100163

Engineering Design and Development (EDD) is the capstone course in the engineering program. It is an engineering research course in which students work in teams to design and develop an original solution to a valid open-ended technical problem by applying the engineering design process. The course applies and concurrently develops secondary level knowledge and skills in mathematics, science, and technology.

Recommended Level: Grades 10-12

Energy and Engineering

Engineering Problem Solving

ENGINEERING PROBLEM SOLVING 103192

This intermediate course exposes students to some of the major concepts that they will encounter in a postsecondary engineering course of study. Students will learn how to identify an engineering problem, research possible solutions, and determine the best solution for the problem.

Recommended Level: Grades 10-12

History of Aviation

HISTORY OF AVIATION 101702

This course explores the historical development of aviation and aerospace on a global and national scale. The class focuses on the key individuals, their achievements and overall contribution to the science of aeronautics and aircraft; including the technologies and key events that have unfolded since the dawn of flight.

Recommended Level: Grades 11-12

Transportation, Distribution and Logistics

Introduction to Aircraft and Rocketry

INTRODUCTION TO AIRCRAFT AND ROCKETRY 101700

This course will serve as an introduction to history, function, design, and principles of flight and rocketry. Students will learn the history of manned flight and space exploration. They will research, design, build, and flight test airframes and rockets. Students will do a hands-on study of the history and future of the aerospace industry.

Recommended Level: Grades 9-12

Transportation, Distribution and Logistics

Introduction to Aviation and Aerospace

INTRODUCTION TO AVIATION AND AEROSPACE 101701

The course engages students in an inquiry-based, problem- solving approach to investigate and understand the science of aeronautics and aerodynamics. The activities are designed to encourage teamwork and participation among the students. The course also provides a broad understanding of the three types of aviation: commercial, military, and general aviation.

Recommended Level: Grades 10-12

Transportation, Distribution and Logistics

Introduction to Engineering Design

INTRODUCTION TO ENGINEERING DESIGN 100161

This course encourages students to use a problem-solving model to improve existing products and invent new ones. They learn how to apply this model to solve any problems, even outside of the classroom. Students use sophisticated three-dimension modeling software to communicate the details of these products. Emphasis is placed on analyzing potential solutions and communicating ideas to others.

Recommended Level: Grades 9-12

Energy and Engineering

Introduction to Powered Flight

INTRODUCTION TO POWERED FLIGHT 101704

The successful completion of this course will prepare the student to take and pass the Federal Aviation Administration's (FAA) Private Pilot Written Exam which is a requirement to fulfill in obtaining a Private Pilot Certificate. This course will introduce the student to a variety of subject matters ranging in, but not limited to, Basic Aerodynamics, Aircraft Systems, Flight Instrument applications, Federal Aviation Regulations, Meteorology, Aerial Navigation, Airport Operations and Procedures, In-route Flight Planning, and applications of Determining Aircraft Performance Parameters for safe flight.

Recommended Level: Grades 12

Transportation, Distribution and Logistics

Robotics

ROBOTICS 103194

Introduction of Robotics (IR) is designed to explore the current and future use of automation technology in industry and everyday use. Students will receive a comprehensive overview of robotic systems and the subsystems that comprise them while engaging with a robotics platform. This course is designed for students who have an interest in Energy and Engineering (CEENEG) robotics applications.

Recommended Level: Grades 9-12

SOCIAL SCIENCE/SOCIAL STUDIES

American Government

AMERICAN GOVERNMENT 151110

This course provides an overview of the structure and functions of the U.S. government and political institutions and examines constitutional principles, the concepts of rights and responsibilities, the role of political parties and interest groups, and the importance of civic participation in the democratic process. The course examines how people govern themselves at the national, state and local level.

Economics

HIGH SCHOOL ECONOMICS 151000

Economics is a course designed to help students make decisions and understand economic principles as applied to current events and issues. Emphasis includes allocation of resources, economic systems, economic institutions and incentives, markets and prices, market structures, productivity, role of government, global economic concepts, and economic indicators. Students should be able to ask economic inquiry questions, gather and analyze evidence in order to defend and communicate conclusions. The curriculum for this course is aligned to and supports the Nebraska Social Studies Standards for HS Economics.

Recommended Level: Grades 11-12

Career Cluster: Finance

Geography

HIGH SCHOOL GEOGRAPHY 150700

The course utilizes a spatial perspective to study the planet's human and physical features. The course utilizes a systems approach and helps students become skilled at geo-spatial technologies which are used to address modern day problems. Students should be able to ask geographic inquiry questions, gather and analyze evidence in

order to defend and communicate conclusions. The curriculum for this course is aligned to and supports the Nebraska Social Studies Standards for HS Geography.

US History

HIGH SCHOOL US HISTORY 150820

The course covers the history of the United States beginning with the Gilded Age to the present. Students should be able to ask historical inquiry questions, gather and analyze evidence in order to defend and communicate conclusions. The curriculum for this course is aligned to and supports the Nebraska Social Studies Standards for HS American History.

World History

HIGH SCHOOL WORLD HISTORY 150800

The course covers the history of the world beginning in 1500 to the present. Students should be able to ask historical inquiry questions, gather and analyze evidence in order to defend and communicate conclusions. The curriculum for this course is aligned to and supports the Nebraska Social Studies Standards for HS World History.

WORLD LANGUAGE

Spanish I

WORLD LANGUAGE SPANISH I 060241

This beginning course includes the study of speaking, listening, reading, writing, and culture of the people. Students will be able to understand familiar words and very basic phrases concerning themselves, their family and immediate surroundings when people speak slowly and clearly. They will be able to understand familiar names, words, and very simple sentences and ask and answer simple questions in the areas of immediate need or on very familiar topics. Students will be able to use and write simple phrases and sentences to describe situations. This course should help students gain insight into the nature of their own language and culture and apply the language and cultural knowledge within and beyond the school setting.

Spanish II

WORLD LANGUAGE SPANISH II 060242

This course enables student to understand phrases and commonly used vocabulary related to areas of personal relevance and recognize the main point in short, clear, simple messages and announcements. Students will be able to read very short, simple texts and find specific, predictable information in simple everyday materials. Student can communicate in simple and routine tasks requiring a direct exchange of information on familiar topics and activities. They will be able to handle very short social exchanges and use a series of phrases and sentences to describe in simple terms their family and other people. This course should help students gain insight into the nature of their own language and culture and apply the language and cultural knowledge within and beyond the school setting.

Nebraska Career and Technical Education Programs of Study

Program of Study Name	Introductory Course	Intermediate Course	Capstone Course	Expanded Learning Opportunity
ACCOUNTING	Introduction to Business OR Personal Finance	Accounting 1 AND Accounting 2	Accounting 3 AND Accounting 4	
AGRIBUSINESS	Intro to Agriculture, Food and Natural Resources	Agribusiness		
AG POWER, STRUCTURE, AND TECHNICAL SYSTEMS	Introduction to Agriculture, Food and Natural Resources	Welding	Metals and Fabrication	
ANIMAL SYSTEMS	Intro to Agriculture, Food and Natural Resources	Animal Science		
CHILD , YOUTH, & FAMILY STUDIES	Introduction to Family & Consumer Sciences		Interpersonal Relationships	Life & Career Readiness
COUNSELING & MENTAL HEALTH	Introduction to Family & Consumer Sciences			Interpersonal Relationships
COMPUTER SCIENCE	Computer Science Essentials or Introduction to Computer Science	Computer Science Principles	Cybersecurity	
CULINARY ARTS & EVENT PLANNING	Fundamentals of Nutrition and Culinary Essentials	Culinary Skills 1	Culinary Skills 2	

Nebraska Career and Technical Education Programs of Study Continued…

Program of Study Name	Introductory Course	Intermediate Course	Capstone Course	Expanded Learning Opportunity
EDUCATION AND TRAINING	Teaching as a Profession	Best Practices in Education and Training	Education and Training Practicum	
ENGINEERING	Introduction to Skilled and Technical Sciences, OR Engineering Design & Systems Thinking, OR Principles of Engineering, OR Introduction to Engineering Design	Engineering Problem Solving, OR Robotics, OR Aerospace Engineering	Systems Engineering & Project Management OR Advanced Robotics OR Engineering Design & Development	Energy & Engineering Work-Based Learning Experience
ENTREPRENEURSHIP	Introduction to Business	Accounting 1	Entrepreneurship	
FINANCE	Introduction to Business OR Personal Finance	Accounting 1	Economics	
PLANT SYSTEMS	Intro to Agriculture, Food and Natural Resources	Plant Science		