

2026-2027 Career Academy & Technical Center Registration Guide



1221 College Drive



806 N Washington St



1200 College Drive



5402 Noble Drive

Pat Phillips, CTE Director
www.bismarckcte.org
701-323-4340

QUICK GUIDE

Title of Course	Freshman	Soph.	Jr.	Sr.
Advanced Circuits (formerly AC Electronics) *@	X	X	X	X
Advanced Medical Careers *		X	X	X
Agri-Science		X	X	X
Analog Electronics *@		X	X	X
Applied Ag Mechanics (formerly Applied Mechanics)	X	X	X	X
Aquatic Lifeguarding (must be 15 years old)		X	X	X
Architectural Design		X	X	X
Auto Collision I		X	X	X
Auto Collision II *@			X	X
Automotive Technology I		X	X	X
Automotive Technology II*			X	X
Aviation I		X	X	X
Aviation II * @			X	X
Botany/Horticulture		X	X	X
Building Systems	X	X	X	X
Building Systems II	X	X	X	X
Carpentry Framing		X	X	X
Carpentry Interior		X	X	X
Career Academy Tech Ed (formerly Foundations of Technology)	X	X	X	X
Certified Nursing Assistant *		X	X	X
Computer Hardware/I.T. Essentials	X	X	X	X
Creative Engineering I		X	X	X
Creative Engineering II		X	X	X
Cybersecurity		X	X	X
Digital Art & Photography @		X	X	X
Digital Electronics *@		X	X	X
Graphic Design @		X	X	X
Intro to Agriculture	X	X	X	X
Intro to Computers/Intro to I.T.	X	X	X	X
Intro to Drones & Career Applications		X	X	X
Intro to Electricity (formerly DC Electronics) @	X	X	X	X
Intro to Nursing (dual credit only)				X
Medical Careers	X	X	X	X
Medical Terminology (online)			X	X
Mechatronics (formerly Energy & Power Production)		X	X	X
Outdoor Leadership & Fitness (OLAF)			X	X
Prevention and Care of Athletic Injuries *		X	X	X
Robotics	X	X	X	X
Small Animal Care	X	X	X	X
Tech Design/3D Modeling		X	X	X
Veterinary Science *			X	X
Welding I		X	X	X
Welding II *			X	X
CTE Internship*#			X	X
Capstone Seminar *#			X	X

* = Course has a prerequisite (check course description)

@ = Articulation class

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Free BPS bussing is provided for students to and from all three high schools and all Career Academy locations

****Enrollment in Level 2 CTE courses will be prioritized by grades in previous CTE courses, CRP scores, and instructor recommendations. Priority for enrollment will be given to students who rank high across all criteria**

North Dakota State Scholarship Information

Coordinated Plans of Study and North Dakota State Scholarship Opportunities

Coordinated Plans of Study exist for eight career and technical education program areas through Bismarck Public Schools: Agriculture, Business Education, Family and Consumer Science, Health Sciences, Information Technology, Marketing Education, Technology Education, and Trade, Industry, and Technical Education (**Coordinated Plans of Study and the specific pathways preface each program area in this registration guide**). The North Dakota Scholarship aims to align scholarship requirements to the Choice Ready initiative. One thing to keep in mind is that the requirements will align to Choice Ready. The North Dakota Scholarship is worth \$6,000 and can be used at approved colleges, universities, professional schools, and registered apprenticeship programs in North Dakota.

Specific eligibility requirements for the scholarship can be found at:

<https://www.nd.gov/dpi/familiescommunity/students/north-dakota-scholarship>

****Coordinated Plans of Study to choose from to complete the two credit plan of study scholarship requirement preface each program area in this registration guide.**

Agriculture Career Cluster

Coordinated Plans of Study for North Dakota Career and Technical Education Scholarship		
AGRICULTURE EDUCATION		
*For the most current information regarding Coordinated Plans, go to cte.nd.gov/coordinated-plans-study *		
Agriculture, Food & Natural Resources Career Cluster		
Power, Structural & Technical Systems		
Course Code	Description	No. of Credits
01011	Introduction to Agriculture	1
01021	Agri Science	1
01043	Applied Ag Mechanics-Sem. 1 (formerly Applied Mechanics)	1
01044	Applied Ag Mechanics-Sem. 2 (formerly Applied Mechanics)	1
01066	Small Animal Care	1
01067	Veterinary Science	1
01995	Supervised Agricultural Experience (SAE)	1/2 – 2
Must complete at least 2 credits		

AGRI-SCIENCE (Science Credit)

BPS Silver Ranch

Grade Placement: 10, 11, 12.....1 credit (Block Class).....Semester 1 or 2

Lab Fee: \$15

This Agri-science technology course is intended to introduce students to scientific, production, and mechanical concepts of agriculture and to relate it to today's technology. It includes the study of agricultural plants, animals, soils, ag business, horticulture, pesticides, computers, and food technology. Field trips to various Ag related businesses may be taken throughout the semester. Leadership through the FFA is an integral part of this course.

APPLIED AG MECHANICS (formerly Applied Mechanics)

BPS Career Academy/Silver Ranch

Grade Placement: 9, 10, 11, 12.....2 credits (Block Class).....Full Year

Lab Fee: \$25

Leather boots, welding gloves, and safety glasses are required. Coveralls or old set of clothes strongly suggested. This program includes: tool identification, the study of small engine repair, welding repair using oxy-acetylene, MIG and arc welding, and building of small metal projects. Further studies include: agriculture carpentry, building of small & medium wood projects & buildings, surveying, construction techniques and materials, plumbing, electricity, and utilities. The use of hand and power tools for projects is also included in the mechanics program. Leadership through FFA is an integral part of this course.

BOTANY/HORTICULTURE (Science Credit)

BPS Career Academy

Grade Placement: 10, 11, 12.....2 credits (Block Class).....Full year

Additional credit info: Successful completion of both semesters fulfills up to two science credits and would be required to fulfill the biology requirement for graduation.

This course, offered at the CTE Center on the BSC campus, is designed to give hands-on instruction in skills related to nurseries, greenhouses, florist shops, lawn services, landscaping, park and landscape maintenance, gardening, and fruit production.

INTRODUCTION TO AGRICULTURE

BPS Career Academy/Silver Ranch

Grade Placement: 9, 10, 11, 12.....1 credit (Block Class).....Semester 1 or 2

Lab Fee: \$15

Introduction to Agriculture is a foundational course designed to explore the diverse and essential world of agriculture and its role in sustaining society. Students will gain hands-on experience and core knowledge across major agricultural disciplines, learning how food, fiber, and natural resources are produced, processed, and managed. Through engaging classroom instruction, laboratory activities, and real-world applications, students will develop an understanding of agricultural systems, career pathways, and stewardship of land and animals. Major units of study include Animal Science, Agriculture Food & Material Processing, Soil Science, Plant Science, and Floriculture.

SMALL ANIMAL CARE

BPS Silver Ranch

Grade Placement: 9, 10, 11, 12.....1 credit (Block Class).....Semester 1 or 2

This introductory course will start to explore aspects of proper small animal care by introducing students to a wide variety of skills and knowledge used in the world of companion animals. Students will learn basic bodily systems of cats, dogs, rabbits, birds, and fish. Students can expect to learn about proper housing, animal behavior and safety, veterinary skills and diagnosing illnesses, and explore careers working with animals. Students enrolled in this course will be expanding on skills learned in the classroom by applying these skills in a lab setting. Students interested in veterinary careers or jobs working with animals, this is the class for you!

VETERINARY SCIENCE

BPS Silver Ranch

Grade Placement: 11 & 12.....1 credit (Block Class).....Semester 2

Fees: Any requirements by the facilities for job shadowing

Prerequisite: Small Animal Care, Medical Careers, or Anatomy and Physiology

This course is meant to expose students to careers in veterinary sciences. Students will explore topics such as animal anatomy and physiology, common diseases, diagnostic procedures, animal nutrition, preventative care, and basic veterinary practices. Emphasis is placed on animal welfare, professionalism, and safety in working with both small and large animals. Students will also examine career opportunities in veterinary medicine and related fields. Students will have many opportunities throughout the course to help them prepare to potentially participate in job shadow experiences. **Students are responsible for transportation to tour sites and any required vaccinations or facility-specific requirements.**

Free BPS bussing is provided for students to and from Career Academy classes and BHS, CHS, and LHS

Manufacturing Cluster

Coordinated Plans of Study for North Dakota Career and Technical Education Scholarship

TRADE, INDUSTRY & TECHNICAL EDUCATION

For the most current information regarding Coordinated Plans go to cte.nd.gov/coordinated-plans-study

Manufacturing Career Cluster

Production			Manufacturing Production Process Development		
Course Code	Description	No. of Credits	Course Code	Description	No. of Credits
17236	Welding I	1 or 2	17150	Intro to Electricity (formerly DC Electronics)	1
17237	Welding II	1 or 2	17150	Advanced Circuits (formerly AC Electronics)	1
			17151	Analog Electronics	2
			17152	Digital Electronics	2
17950	Trade & Industry Capstone	1 or 2	17950	Trade & Industry Capstone	1 or 2
Must complete at least 2 credits			Must complete at least 2 credits		

Intro to Electricity (formerly DC Electronics)

BPS Career Academy

Grade Placement: 9, 10, 11, 12.....1 credit (Block Class).....Semester 1

Step into the world of cutting-edge technology! This hands-on course is your gateway to becoming a tech innovator. You'll build and test real electronic circuits in a cool lab environment, learning how electrical engineers shape the world. By solving real-world problems and analyzing schematics, you'll master concepts like current, voltage, and resistance. Plus, earn college credits as you explore the fascinating world of DC circuit analysis. Want to start building the future? This is your first step! But that's just the beginning! To keep advancing, it's highly recommended to take **Advanced Circuits** the next semester, as it builds on what you learn in **Intro to Electricity**, preparing you for more complex circuits and a solid foundation in future tech.

Advanced Circuits (formerly AC Electronics)

BPS Career Academy

Grade Placement: 9, 10, 11, 12.....1 credit (Block Class).....Semester 2

Prerequisite: *Intro to Electricity* *Intro to Electricity (formerly DC Electronics)*

Take your electronics skills to the next level! In this second-semester course, you'll dive deeper into advanced topics like resonance, filters, and even complex circuits. With a mix of lab work and theory, you'll get to experiment with real-life electronics, learning how to troubleshoot and refine circuits like a pro. Plus, you can earn even more college credits while preparing for careers in tech, engineering, or electronics. Ready to level up and make your mark in the world of electronics? This course is for you!

ANALOG ELECTRONICS

BPS Career Academy

Grade Placement: 10, 11, 12.....2 credits (Block Class).....Full Year

Prerequisite: *Intro to Electricity (formerly DC Electronics)* & *Advanced Circuits (formerly AC Electronics)*

Students will have the opportunity to earn college credits through the articulation process.

Get ready for a high-paying career right after high school! In Analog Electronics, you'll design, build, and troubleshoot circuits. This hands-on, real-world class will give you the skills to master analog electronics, and you can even earn college credits while you're at it. If you're serious about a future in tech or engineering, this class is your launchpad!

DIGITAL ELECTRONICS

BPS Career Academy

Grade Placement: 10, 11, 12.....**2 credits (Block Class)**.....**Full Year**

Prerequisite: *Intro to Electricity (formerly DC Electronics)*

Step into the world of digital technology and microcomputers! Building on your foundational electronics knowledge, this course dives deep into TTL and CMOS devices, microprocessor systems, and advanced troubleshooting techniques. With the opportunity to earn up to **28 college credits**, this class is perfect for students ready to excel in tech, robotics, and more! Ready to explore the digital future? This is the class for you!

WELDING I

BPS Technical Center

Grade Placement: 10, 11, 12..... **1 credit (Block Class)**.....**Semester 1 or 2**

Requirements: *Students must provide their own boots, coveralls/jacket, gloves, welding cap*

This course provides a combination of classroom study and hands-on exploration of metal joining processes and techniques as well as an opportunity to learn multiple welding skills including: safe handling of welding equipment, Oxy-Acetylene welding, Oxy-Acetylene cutting, Shielded Metal Arc Welding, and Gas Metal Arc Welding. We will reinforce our classroom studies with hands-on projects that will be done in teams or individually with the use of welding equipment, hand and power tools, and other metal fabrication machines.

WELDING II

BPS Technical Center

Grade Placement: 11, 12.....**1 credit (Block Class)**.....**Semester 1 or 2 (no longer a year-long class)**

Prerequisite: *Welding I*

Requirements: *Students must provide their own boots, coveralls/Jacket, gloves, welding cap*

This course will be an extension of the Welding I course. Added topics will be: Plasma torch cutting, Shielded and Gas Metal Arc welding in the vertical and horizontal positions, and Gas Tungsten Arc Welding. Scale drawings, measurements, and blueprint reading will be covered in this course as well as an emphasis on project fabrication, career-ready skills, and welding career exploration.

Free BPS bussing is provided for students to and from Career Academy classes and BHS, CHS, and LHS

Health Sciences Cluster

Coordinated Plans of Study for North Dakota Career and Technical Education Scholarship

HEALTH SCIENCES EDUCATION

For the most current information regarding Coordinated Plans, go to cte.nd.gov/coordinated-plans-study

Health Science Career Cluster

Diagnostic Services			Therapeutic Services		
Course Code	Description	No. of Credits	Course Code	Description	No. of Credits
07033	Medical Careers	1	07032	Certified Nursing Assistant	1
07034	Prevention & Care of Athletic Injuries	1	07033	Medical Careers	1
07035	Advanced Medical Careers	1	07035	Advanced Medical Careers	1
07036	Medical Terminology	½	07036	Medical Terminology	½
			07038	Intro to Nursing	1
17950	Trade & Industry Capstone	1 or 2	17950	Trade & Industry Capstone	1 or 2
Must complete at least 2 credits			Must complete at least 2 credits		

MEDICAL TERMINOLOGY

Grade Placement: 11, 12.....1/2 credit

This course will be offered as a dual credit course with Bismarck State College through the CRACTC. It is offered in an online format with proctored tests. In this course, students will develop skills necessary for decoding commonly used medical terms. Students will learn the meaning of medical suffixes, prefixes and word roots. This medical terminology course covers the basic knowledge and understanding of medical language and terminology used by healthcare professionals. This course requires students to work independently and manage their time well. **Dual credit through Bismarck State College (BOTE 171) is available.**

Online

Semester 1 or 2 Online

MEDICAL CAREERS

Grade Placement: 9, 10, 11, 12.....1 credit

This year-long course provides students with information relating to the educational and professional requirements for the various medical careers. Students will study infection control, fundamentals of diseases, basic anatomy and physiology, and medical terminology. Students will become certified in the Healthcare Provider level of CPR/AED for the Professional Rescuer and American HeartSaver First Aid. **Dual credit from Bismarck State College is available (HPER 210)** Students need to be sophomores in order to receive dual credit.

BHS, CHS, LHS

Full Year

ADVANCED MEDICAL CAREERS

Grade Placement: 10, 11, 12... 1 credit (Block Class)

Fees: Cost of polo shirt, name tag, any possible and/or additional requirements that may be needed for facility job shadowing.

Prerequisite: *Enrolled in or completion of Medical Careers. (May be waived per approval of administration).*

This course is designed for students interested in exploring a variety of medical professions. Through professional guest speakers, research projects, college tours, and hands-on activities, students will deepen their understanding of the healthcare field. The course emphasizes employability skills and prepares students for future success in medical careers. Students will have many opportunities throughout the course to help them prepare to potentially participate in job shadow experiences. Students are responsible for transportation to tour sites and any required vaccinations or facility-specific requirements.

Hughes Education Center

Semester 1 or 2

CERTIFIED NURSING ASSISTANT (CNA)

Grade Placement: 10,11,12... 1 credit (Block Class)

Fees: Cost of polo shirt and name tag, plus the cost of optional state certification exam

Prerequisite: *Enrolled in or completion of Medical Careers. (May be waived per approval of administration)*

This course provides classroom instruction, skills lab practice, and clinical simulation to prepare the student for employment as a Certified Nursing Assistant in a skilled nursing facility, acute care, or home health care setting. Upon successful completion of the course requirements and classroom and skill hours, students are eligible to take the state CNA certification exam through Headmaster. The student is responsible for transportation to and from out-of-class events and the optional state exam fee. Optional clinical experience opportunities may be available. **Dual credit through Bismarck State College (NURS100) is available.**

Hughes Education Center

Semester 1 or 2

PREVENTION AND CARE OF ATHLETIC INJURIES

Grade Placement: 10, 11, 12 1 credit (Block Class)

Fees: Cost of polo shirt and name tag

Prerequisite: *An existing background from a Medical Careers -*

or- Anatomy/Physiology course is highly recommended for supportive knowledge but is not required.

An introductory course for students interested in the field of Sports Medicine, covering both academic knowledge and practical skills. It covers the core principles of prevention, recognition, immediate care, and rehabilitation of athletic injuries, along with fundamental nutrition and standards like HIPAA regulations. Students gain practical experience in techniques such as taping, wrapping and joint measurement (goniometry). Classroom learning is enhanced through job shadowing. All job shadow opportunities take place outside of scheduled class time, and students must arrange their own transportation to the sites. The curriculum integrates online modules from the NFHS Learning Center, providing students with an official NFHS certificate of completion which validates the student's training in critical health and safety topics for future coaching, athletic training, or sports-related roles. Successful completion of this course makes students eligible to apply for a potential sports medicine internship. **Dual credit through the University of Mary (KIN 151 & 238) or Bismarck State College (HPER 207) is available.**

Hughes Education Center

Semester 1 or 2

INTRODUCTION TO NURSING (Dual Credit ONLY)

Grade Placement: 12 1 credit (Block Class) Hybrid Schedule

Fees: Dual credit costs

This course is for senior students interested in pursuing a nursing career. In collaboration with the University of Mary, this course introduces students to professional nursing roles and attributes. Standards for nursing care, therapeutic communication, and quality and safety concerns will be explored. Transportation to and from out-of-class events is required. **Students must sign up for dual credit (NUR 240).**

Hughes Education Center

Semester 1 or 2

Free BPS bussing is provided for students to and from Career Academy classes and BHS, CHS, and LHS

Information Technology Cluster

Coordinated Plans of Study for North Dakota Career and Technical Education Scholarship

INFORMATION TECHNOLOGY EDUCATION

For the most current information regarding Coordinated Plans, go to cte.nd.gov/coordinated-plans-study

Information Technology Career Cluster

Network Systems			Information Support & Services			Programming & Software Development		
Course Code	Description	No. of Credits	Course Code	Description	No. of Credits	Course Code	Description	No. of Credits
27101	Intro to Computers/Intro to I.T.	1	27101	Intro to Computers/Intro to I.T.	1	27101	Intro to Computers/Intro to I.T.	1
27219	Computer Hardware/I.T. Essentials	1	27219	Computer Hardware/I.T. Essentials	1	27510	AP Computer Science Principles	1
27280	Cybersecurity	1	27280	Cybersecurity	1	27520	AP Computer Science A	1
						27122	Computer Programming I	½
						27280	Cybersecurity	1
Must complete at least 2 credits			Must complete at least 2 credits			Must complete at least 2 credits		

INTRO to COMPUTERS/INTRO TO I.T.

BPS Career Academy

Grade Placement: 9, 10, 11, 12.....1 credit (Block Class)..... Semester 1 or 2

This exploratory level course provides an exposure to careers and issues in Information Technology. Units prepare students for the industry recognized “Internet and Computing Core Certification” (IC3). This globally recognized certification provides students with the foundation of knowledge needed to excel in fields that involve computers and the internet. The IC3 Global Standard 3 reflects the most relevant skills for school and business today including: Computing Fundamentals, Key Applications, and Living Online. Students will also have introductory units on Cybersecurity and the Internet of Things (IoT).

COMPUTER HARDWARE/I.T. ESSENTIALS

BPS Career Academy

Grade Placement: 9, 10, 11, 12.....1 credit (Block Class).....Semester 1 or 2

Recommended: Intro to Computers

This course introduces students to computer hardware and operating systems. 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. In addition, an introduction to networking is included. This course helps the students prepare for CompTIA A+ certification.

CYBERSECURITY

BPS Career Academy

Grade Placement: 10, 11, 12.....1 credit (Block Class).....Semester 1 or 2

With billions of devices now online, new threats pop-up every second! In this class students will learn the basics of being safe online. Learn about different types of malware and attacks, and how organizations are protecting themselves against these attacks. Explore the career options in cybersecurity. **Dual Credit available upon request.**

Science, Technology, Engineering, and Math Cluster (STEM)

Coordinated Plans of Study for North Dakota Career and Technical Education Scholarship

TECHNOLOGY & ENGINEERING EDUCATION

For the most current information regarding Coordinated Plans, go to cte.nd.gov/coordinated-plans-study

Science, Technology, Engineering & Mathematics Career Cluster			Manufacturing Career Cluster		
Engineering & Technology			Manufacturing Production Process Development		
Course Code	Description	No. of Credits	Course Code	Description	No. of Credits
10094	Career Academy Tech Ed (formerly Foundations of Technology)	1	10111	Building Systems I	1
10410	Creative Engineering I	1	10111	Building Systems II	1
10338	Creative Engineering II	1	10259	Architectural Design	1
10411	Robotics Engineering	1	10260	Tech Design/3D Modeling	1
			10331	Mechatronics (formerly Energy & Power Production)	1
			10411	Robotics Engineering	1
Must complete at least 2 credits			Must complete at least 2 credits		

ARCHITECTURAL DESIGN

BPS Career Academy

Grade Placement: 10, 11, 12.....1 credit (Block Class).....Semester 1 or 2

Lab Fee: \$15

Architectural Design students will master the technical skills of the industry software, Computer Aided Drafting and Design (CADD), and in the process will produce architectural plans and 3D computer models. In addition, students will sketch floor plans and build scale architectural models from sketches and blueprints. Bismarck-Mandan architects will provide professional insights into the architectural design process and local projects.

BUILDING SYSTEMS I

BPS Career Academy

Grade Placement: 9, 10, 11, 12.....1 credit (Block Class)

Semester 1 or 2

Lab Fee: \$25

If you enjoy woodworking, construction, home repair, or working with your hands, this class is for you! Students will learn the safe and appropriate use of tools and machines commonly used in the construction and woodworking industries while completing a variety of hands-on projects in the tech and engineering shop. Projects may include concrete work, laminate countertops, wooden games, laser engraving, charcuterie boards, wall framing and sheetrock installation, taping, mudding, and patching. In partnership with the Dakota Woodturners, students will also have the opportunity to use a wood lathe to create projects such as pens, screwdrivers, duck/deer/goose calls, vases, and other wood turned items. This course is a great introduction for students interested in exploring the construction field or for anyone wanting to develop basic home building and repair skills through hands-on experience.

BUILDING SYSTEMS II

BPS Career Academy

Grade Placement: 9, 10, 11, 12.....1 credit (Block Class).....Semester 1 or 2

Prerequisite: *Building Systems I*

Lab Fee: \$25

If you enjoyed Building Systems I, this class should be added to the list. Building II will add to your knowledge in the construction field by introducing careers and developing skills in floor coverings and installation, tile setting, plumbing countertop construction and repair, roofing, advanced woodturning, underground sprinkler systems, and security systems (locks and cameras). In addition, students will create an electrical circuit by running electrical wiring to the various lighting and outlets within the structure. We will cover tools, materials and vocabulary in all these trade areas. Small project at the end of the semester.

CAREER ACADEMY TECH ED (formerly Foundations of Technology)

BPS Career Academy

Grade Placement: 9, 10, 11, 12.....1 credit (Block Class) Semester 1 or 2

Lab Fee: \$25

Do you like building things? Do you like working with your hands? Learn through group and individual activities that engage in STEM activities by creating ideas, developing innovations, and engineering practical solutions. Some hands-on activities that are possible: tool safety, CADD designed Co2 car dragsters, manufacturing in the wood shop with the mini-lathe & building a small wood project, laser engraver, vinyl cutter, t-shirt design, bridge design, building robots.

CREATIVE ENGINEERING I

BPS Career Academy

Grade Placement: 10, 11, 12.....1 credit (Block Class)Semester 1 or 2

Prerequisite: *10th grade Students must have successfully completed one Career Academy or Tech Center class*

Are you considering a career in engineering? A major focus of this class will be on understanding what engineers do and how they solve problems. You will learn about the engineering design process, and how to use a CAD program to design 3D models that will be printed on a 3D printer. Students will work individually or in teams to problem solve different engineering projects using the engineering design process. Students will be able to make engineering choices for their projects based on their skills and what they have learned. Opportunities for job shadows and collaboration with engineering professionals will be provided, along with these professionals sharing their college journey to get where they are.

CREATIVE ENGINEERING II

BPS Career Academy

Grade Placement: 10, 11, 12.....1 credit (Block Class) Semester 1 or 2

Prerequisite: *10th grade Students must have successfully completed Creative Engineering I*

A major focus of this class will be on the exploration of careers in engineering. You will have the opportunity to do job shadows and career explorations at local facilities where you can meet people in the engineering field, ask questions, and create contacts for the future. You will enhance your CAD program skills for prototyping and using the 3D printer. Students can work individually or in teams on design problem and have the opportunity to create an engineering project of their choice based on the skills they have learned.

MECHATRONICS (formerly Energy & Power Production)

BPS Career Academy

Grade Placement: 10, 11, 12.....1 credit (Block Class) Semester 1 or 2

Prerequisite: *10th grade students must have successfully completed one Career Academy or Tech Center class*

Lab Fee: \$25

Mechatronics is designed to provide students with an understanding of manufacturing and robotics/automation. Some of the projects/units that will be covered include; CADD (Fusion 360), various CNC machines (3D printers, laser engravers, robotic arms, and CNC routers). Students will also build various wood projects such as geometric wall art and duct tape boats. Possible field trips include Bobcat, Cloverdale, and the BSC automation labs.

ROBOTICS**BPS Career Academy****Grade Placement: 9, 10, 11, 12.....1 credit (Block Class) Semester 1 or 2**

Robotics focuses heavily on the building process, mechanical parts, and physics of a functioning robot. Students will spend the majority of their time in class building and being hands-on. Some of the robot builds include the square bot, claw bot, protobot, gear plate, stair climber, crane, manipulator, and ping pong ball launcher. The robotic systems used in class are from VEX Robotics.

TECH DESIGN/3D MODELING**BPS Career Academy****Grade Placement: 10, 11, 12.....1 credit (Block Class).....Semester 1 or 2***Lab Fee: \$25*

Students will develop skills necessary for the designing and modifying of products and projects. Students will use 3D printers, laser cutters and other machines to produce models and prototypes of the designed product. This class allows individual students the creativity throughout the designing and building phase of their project. Possible projects include a size sorting design, seasonal designs, a launching vehicle, personal product design, and group mini golf course.

Construction Career Cluster

Coordinated Plans of Study for North Dakota Career and Technical Education Scholarship		
TRADE, INDUSTRY & TECHNICAL EDUCATION		
For the most current information regarding Coordinated Plans, go to cte.nd.gov/coordinated-plans-study .		
Architecture & Construction Career Cluster		
Construction		
Course Code	Description	No. of Credits
17100	Carpentry Framing	2
17117	Carpentry Interior	2
17950	Trade & Industry Capstone	1 or 2
Must complete at least 2 credits		

CARPENTRY FRAMING**BPS Silver Ranch****Grade Placement: 10, 11, 12.....2 credits (Block Class)****Full Year**

Requirement: *students are responsible for dressing appropriately as class may be working outside in adverse conditions*

Students in this class participate in the actual construction of a house to be built on-site. Students will get valuable hands-on experience in floor, wall, and roof framing, sheeting, insulating, siding, window and exterior door installation. Students will design and draw a floor plan for a house. Proper safety methods and appropriate use of carpentry tools are stressed throughout the course.

CARPENTRY INTERIOR**BPS Silver Ranch****Grade Placement: 10, 11, 12.....2 credits (Block Class)****Full Year**

Students in this class will learn and apply techniques in drywall installation and finishing at the carpentry house. The students will learn cabinet building and installation procedures as well as other woodworking techniques. Students will also learn how to cut, assemble, install, and finish all interior woodwork in a typical house. This will include hanging interior doors, trimming doors and windows, and installation of baseboard. Proper safety methods and appropriate use of carpentry tools and equipment are stressed throughout the course.

Transportation Cluster

Coordinated Plans of Study for North Dakota Career and Technical Education Scholarship

TRADE, INDUSTRY & TECHNICAL EDUCATION

For the most current information regarding Coordinated Plans, go to cte.nd.gov/coordinated-plans-study.

Transportation, Distribution & Logistics Career Cluster

Transportation Operations			Facility and Mobile Equipment Maintenance		
Course Code	Description	No. of Credits	Course Code	Description	No. of Credits
17812	Aviation I	2	17030	Auto Collision I	1 or 2
17813	Aviation II	2	17031	Auto Collision II	2
17814	Intro to Drones & Unmanned Aerial Systems	1	17032	Automotive Technology I	2
			17037	Automotive Technology II	2
17950	Trade & Industry Capstone	1 or 1	17950	Trade & Industry Capstone	1 or 2
Must complete at least 2 credits			Must complete at least 2 credits		

AUTO COLLISION I

BPS Technical Center

Grade Placement: 10, 11, 121 credit (Block Class),.....Semester 1 or 2

Required: Safety glasses, welding gloves (available for purchase or supply your own), instructor approved work boots and clothing.

Students will learn safe work procedures, basic tool handling, auto body repair procedures in the following areas: wire welding, basic sheet metal repair, materials used in auto body repair, body construction, glass installation, and refinishing materials and techniques.

AUTO COLLISION II

BPS Technical Center

Grade Placement: 11, 12.....2 credits (Block Class).....Full Year

Prerequisite: Auto Collision I

Required: Safety glasses, welding gloves (available for purchase or supply your own), instructor approved work boots and clothing.

Students will expand their knowledge of auto collision repair through instruction in minor frame repair, wire feed welding, panel replacement, glass installation, basic collision damage repair and refinishing. Students will use many of the specialty tools used in major auto body repair and will learn the use of water bourn paints.

Students will also learn about the insurance industry and how to write estimates.

Free BPS bussing is provided for students to and from Career Academy classes and BHS, CHS, and LHS

AUTOMOTIVE TECHNOLOGY I

BPS Technical Center

Grade Placement: 10, 11, 12.....2 credits (Block Class).....Full Year

Course Titles: Auto Shop Orientation, Engine diagnosis, Electrical/Electronic Systems, Suspension and Steering

Requirements: *Instructor approved full-leather work boots, OSHA approved clear lens safety glasses, locker padlock if desired*

The focus of Auto Tech I is the fundamentals of today's more complicated automobile engines, electronics and suspension systems. Students will learn proper safety techniques, as well as the use of specialized equipment in the diagnosis and repair of these systems. The program maintains ASE Certification under the direction of ASE Master Certified Technicians. Students are encouraged to work on their own personal vehicles as course guidelines direct. The goal of the course is to prepare students to become entry level technicians in the area of maintenance and light repair. Participation in SkillsUSA is recommended.

AUTOMOTIVE TECHNOLOGY II

BPS Technical Center

Grade Placement: 11, 12.....2 credits (Block Class).....Full Year

Prerequisite: *Automotive Technology I*

Course Titles: Brakes, Heating and Air conditioning, Engine Performance, Manual Drivetrain and Axles, Automatic Transmission and Transaxle. Student Requirements: Instructor approved work boots, OSHA approved clear lens safety glasses, locker padlock if desired

Automotive Technology II completes the automobile training bumper to bumper. This class is also an ASE certified program with the goal of preparing students to become entry level Maintenance and Light Repair Technicians. Students are strongly encouraged to enroll in both Automotive Technology I and II to accumulate a thorough working knowledge of the automobile. Work on students' vehicles is also encouraged as course work dictates. Participation in SkillsUSA is recommended.

***AVIATION I**

BPS Career Academy

Grade Placement: 10, 11, 12.....2 credits (Block Class).....Full Year

Students are provided with an opportunity to explore the science, history and possible career paths within the aviation industry. Aviation I introduces students to physics, the certification process, the relationships of weight and balance, classifications of aircraft, manufacturing, principles of navigation and flight control, ground and airport operations and services, and Federal Aviation Administration regulations. Each student gets to have the opportunity for a demonstration flight in the district's Cessna 150.

***AVIATION II**

BPS Career Academy

Grade Placement: 11, 12.....2 credits (Block Class).....Full Year

Prerequisite: *Aviation I*

Aviation II continues where Aviation I left off. Students will cover topics including advanced systems, aeromedical, human factors, meteorology, career tracks, engineering, aerodynamics and airmanship. Each student gets to have the opportunity for a demonstration flight in the district's Cessna 150.

INTRO TO DRONES & CAREER APPLICATIONS

BPS Career Academy

Grade Placement: 10,11, 12.....1 credit (Block Class).....Semester 1 or 2

In this program, you will learn to apply necessary skills to operate drones for different occupations including construction, agriculture, and videography. It will also prepare you to take your professional certification exam and earn their Part 107 Remote Pilot Certificate.

***NOTE:**

Included in the program is a Redbird FMX FAA certified flight simulator and a 1971 Cessna 150 Commuter. Use of both training tools come at little cost to the student, only fuel and instructor fees. Up to 2.5 hours can be logged in the simulator and Cessna can be used by the student for the duration of their time in the program to include the summers in between. For more information contact Lamar Murchison.

Extended Learning Opportunities

Aquatic Lifeguarding

Bismarck Aquatic Center

Grade Placement: must be 15 years of age.....1/2 PE Credit

Early Bird only (7:25 – 8:55am)

Fee: \$60 (not charged if hired by Bismarck Parks and Recreation)

***Prerequisite 1:** You must be able to jump in, swim 150 yards (front crawl or breaststroke), tread water for 2 minutes using only your legs, then swim another 50 yards without stopping.

***Prerequisite 2:** Swim 20 years, dive 7-10 feet to retrieve a 10-lb object, swim 20 yards back holding it, and exit the pool – all within 1:40 (no goggles)

This course is designed in partnership with Bismarck Parks and Recreation to give students the opportunity to receive their lifeguard certification. Students will practice and learn aquatic lifesaving techniques with the prospect of employment at the BPS aquatic facilities. This is a blended course with online module training and in class instruction at the Bismarck Aquatic Center. Students must be at least 15 years old. Students must pass the American Red Cross pre-requisite swim test* (not designed for students who are unable to swim). Students will have an opportunity to apply and go through the interview process with Bismarck Parks and Recreation:

CAPSTONE @ BPS Career Academy

Grade Placement: 12.....1 or 2 credits (Block Class).....Semester or Full Year

*Prerequisite: Must receive teacher approval **prior to registration** & have completed three to four credits (depending on program area) in a CTE Coordinated Plan of Study.*

This course serves as a culminating and integrative experience designed specifically to provide an opportunity to expand upon knowledge gained in a career pathway. It is a project-based course that will focus on the design process to a finished product by incorporating 21st Century Skills, such as critical thinking and problem solving. The course will consist of a major project where the student must be able to demonstrate all that they have learned in their program of study. Each capstone project will incorporate the broader community, some aspect of “giving back” to others, which will provide students the opportunity to connect their project to the community and apply their learning to the real world.

CTE INTERNSHIP

Grade Placement: 11, 12.....1/2 credit per semester (max 2 credits).....Semester 1 or 2

*Prerequisite: Must meet with Career Advisor or Work Based Learning Coordinator **prior to registration** & must have earned one full credit in a specific pathway of a CTE Coordinated Plan of Study. Internship must relate to the career area specific to the pathway in which the full credit was completed.*

An internship may be a paid or unpaid job experience. All program requirements must be completed and **approved prior** to registration for the class. Deadline for fall semester is May 15th & deadline for spring semester is December 15th. To begin the application process, schedule an appointment with your career advisor. Transportation to and from the training site is the responsibility of the student. Students must be enrolled in a minimum number of courses at their respective schools in addition to the internship. Students must complete 75 hours of work for ½ credit.

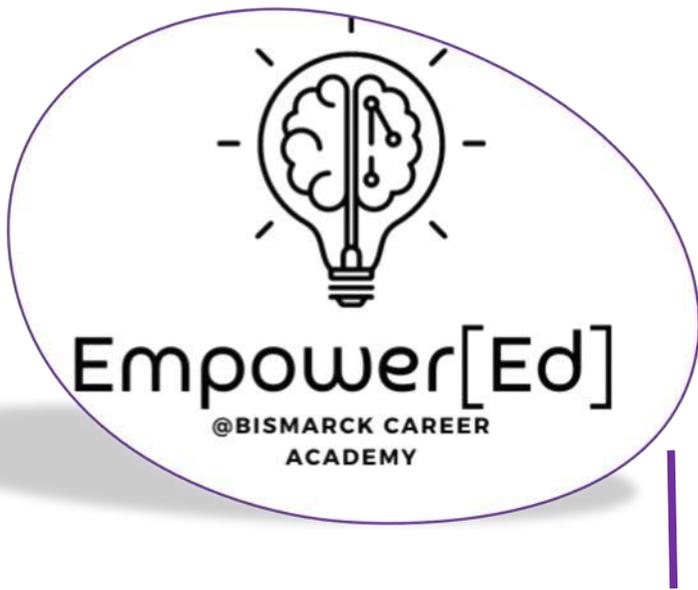
OUTDOOR LEADERSHIP and FITNESS (OLAF)

BPS Career Academy

Grade Placement: 11, 12.....May earn up to .5 creditSemester 1 or 2

This is a blended course designed to teach about outdoor skills along with increase physical fitness through outdoor activities. Students will be working on weekly online modules/assignments with a collaboration time (either face to face or virtual) to share findings, accomplishments, and struggles. Photo and/or video evidence will be primary indicators for assessment, along with a couple group activities (hike/snowshoe, canoe trip, mountain biking). **You must be enrolled in a CTE course.**

Free BPS bussing is provided for students to and from Career Academy classes and BHS, CHS, and LHS



What are Empower[Ed] learners saying?

"This is the first time in a while I have been truly excited to go to school."

"Once I started, it was better than I could have imagined."

"This has allowed me to pursue and further my passions while helping the community and still gaining credits for core classes."

Do the *work* you need to do for *school* in a *school* that *works* for you!

What do I need to be in the Empower[Ed]?

You just have to want to!

- CTE interest – **must be enrolled in a CTE course to be in EmpowerEd**
- A drive to take initiative, explore your passions, and learn.
- A junior or senior
- Parent/Guardian(s) agreement

Can I still take courses and participate in activities at my current high school?

Absolutely!

Empower[Ed] isn't a replacement for the high school experience, it's an addition to it! In fact, we encourage you to participate in all the great experiences from sports to clubs to electives that your school has to offer.

Is Empower[Ed] right for me?

Can you answer "yes" to any of these?

- Do you want to add value to your community?
- Are you looking for something to make you stand out?
- Are you bored or unsure of what to do after high school?
- Do you want to be more independent & self motivated?

What credits can I earn?*

ENGLISH COURSES

- English 11
- English 12

MATH COURSES

- Integrated Math III

SOCIAL STUDIES COURSES

- Government
- Economics
- U.S. History

SCIENCE

- Integrated Science

PE

- Outdoor Leadership & Fitness

**other classes may be available upon request*

Talk to your counselor or
Career Advisor to apply...
...or visit

<https://sites.google.com/bismarckschools.org/empowered/home>

For more information!

