

2021-2022 Career Academy & Technical Center Registration Guide



1221 College Drive



1200 College Drive

Dale Hoerauf, Director
www.bismarckcte.org
701-323-4340

QUICK GUIDE

Title of Course	Freshman	Soph.	Jr.	Sr.
AC Electronics (formerly Electronics I) *@	X	X	X	X
Advanced Medical Careers *			X	X
Agri-Science		X	X	X
Applied Mechanics	X	X	X	X
Architectural Design		X	X	X
Analog Electronics *@			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
Certified Nursing Assistant *			X	X
Blended Learning Certified Nursing Assistant*			X	X
Computer Hardware	X	X	X	X
Creative Engineering I		X	X	X
Creative Engineering II		X	X	X
Cybersecurity		X	X	X
DC Electronics (formerly Electronics I) @	X	X	X	X
Digital Art & Photography @		X	X	X
Digital Electronics *@			X	X
Energy & Power Production		X	X	X
Foundations of Technology	X	X	X	X
Graphic Design		X	X	X
Intro to Agriculture	X	X	X	X
Intro to Computers (Formerly Intro to Computer Software)	X	X	X	X
Medical Careers		X	X	X
Medical Terminology (online)			X	X
Prevention and Care of Athletic Injuries *			X	X
Robotics	X	X	X	X
Tech Design/3D Modeling		X	X	X
Welding I		X	X	X
Welding II *			X	X
CTE Internship*#			X	X
Capstone Seminar *#				X

* = Course has a prerequisite (check course description)

@ = Articulation class

Classes meet for 90 minutes (2 high school class periods)

Bussing is provided for BPS students

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

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, Medical Careers, 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**). Students who choose to focus their coursework in a specific CTE area may be eligible upon graduation for a **North Dakota Career and Technical Education Scholarship, up to \$6,000.00**, which is awarded to students who meet specific criteria and choose to attend a post-secondary institution in North Dakota.

Specific eligibility requirements for the scholarship can be found at <https://www.nd.gov/dpi/parentscommunity/students/academic-and-cte-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		
*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
01043	Applied Mechanics-Sem. 1	1
01044	Applied Mechanics-Sem. 2	1
01995	Supervised Agricultural Experience (SAE)	½ - 2
Must complete at least 2 credits		

AGRI-SCIENCE

BPS Career Academy

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

Alternative Credit: Fulfills one science credit for graduation; however, this one semester course will fulfill only 1/2 college entrance science requirement credit.

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, carpentry, mechanics, and food technology. Field trips to various Ag related businesses are taken throughout the semester. Leadership through the FFA is an integral part of this course. This course is offered at the CTE Center on the BSC campus.

APPLIED MECHANICS

BPS Career Academy

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

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, farm engine maintenance and tune up, repair using oxyacetylene, MIG and arc welding, repair of farm machinery and building of small metal projects. Further studies include: agriculture carpentry, building of small & medium wood projects & buildings, surveying, construction techniques and materials, concrete, 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 (Early Bird offered as an option)

Alternative Credit: Fulfills up to two science credits for graduation; however, both semesters of this course will fulfill only one college entrance science requirement credit. Successful completion of both semesters of Botany/Horticulture are 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

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

This applied course is designed to introduce students to agriculture, its applications, and leadership development as the core foundation of the Agriculture Education program. Individual units will familiarize the student with safety and proper use of tools and equipment; animal selection and genetic traits; soil and plant relationships; basic business management and financial skills. Other topics include: soils, horticulture, nursery, natural resources/wildlife management, and biotechnology. Emphasis is on developing problem solving skills applied to real world problems. FFA and leadership skills are an integral part of this course.

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	2	17150	DC Electronics	1
17237	Welding II	2	17150	AC Electronics	1
			17151	Analog Electronics	2
			17152	Digital Electronics	2
17950	Trade & Industry Capstone	½ or 1	17950	Trade & Industry Capstone	½ or 1
Must complete at least 2 credits			Must complete at least 2 credits		

DC ELECTRONICS (formerly Electronics I)

BPS Career Academy

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

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

Today's electrical engineers, technologists and technicians continue to change the way we live. This hands-on course allows students to work in a lab environment where they will build, analyze and troubleshoot basic electronic circuits. The study of the concepts of current, voltage and resistance through problem solving and schematic drawings as they apply to DC circuits analysis. The lab portion of the course provides hands-on verification of the theory presented in class.

AC Electronics (formerly Electronics I)

BPS Career Academy

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

Prerequisite: DC Electronics.

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

This is a continuation of the concepts learned in DC Electronics. The study of dB, complex numbers, RC, RL and RLC circuits, resonance, and passive and active filters. The lab portion of the course is lab/lecture, which provides hands-on verification of the theory presented in class.

ANALOG ELECTRONICS

BPS Career Academy

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

Prerequisite: DC & AC Electronics (Formerly Electronics I)

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

Analog Electronics will prepare students for a high-paying career after high school. This class is equipped with state-of-the-art equipment and taught by experienced professionals who will help you thoroughly learn designing, building, analyzing and trouble-shooting analog electronic circuits.

DIGITAL ELECTRONICS

BPS Career Academy

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

Prerequisite: DC Electronics (Formerly Electronics I)

Students will have the opportunity to earn 28-32 college credits through the articulation process.

Building on students understanding of basic electronics concepts, this course develops a thorough explanation of TTL and CMOS devices and their applications. Special attention given to related troubleshooting techniques and equipment. Students are introduced to microprocessor-based systems and microcomputers.

WELDING I

BPS Technical Center

Grade Placement: 10, 11, 12.....1 or 2 credits (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.....2 credits (Block Class).....Full Year

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

Art and Communication 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 *		
Arts, A/V Technology & Communications Career Cluster		
Visual Arts		
Course Code	Description	No. of Credits
17072	Graphic Design	2
17073	Digital Art & Photography	2
17950	Trade & Industry Capstone	½ or 1
Must complete at least 2 credits		

DIGITAL ART and PHOTOGRAPHY

BPS Career Academy

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

Lab Fee: \$20.00

Students are encouraged to explore the idea of finding visual solutions to creative problems. This class focuses on creating artwork in Adobe Photoshop, in addition to other Adobe programs such as Illustrator and Lightroom. Digital Photography is a main component of the class and students are given the opportunity to learn digital camera use and image editing. Projects include creating collages, album covers, and posters, and conducting photo shoots.

GRAPHIC DESIGN

BPS Career Academy

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

Lab Fee: \$20.00

This course emphasizes graphic design principles, techniques, and software. Students will be introduced to the graphic design industry while working on real world projects. Creating artwork in Adobe Illustrator is a main focus of this class, but InDesign and Photoshop are also used as necessary. Students will use the Adobe CC software to create designs that can be printed on a wide variety of media right here in the classroom. Students will design logos, t-shirts, posters, advertisements, brochures, and books.

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

Health Science Cluster

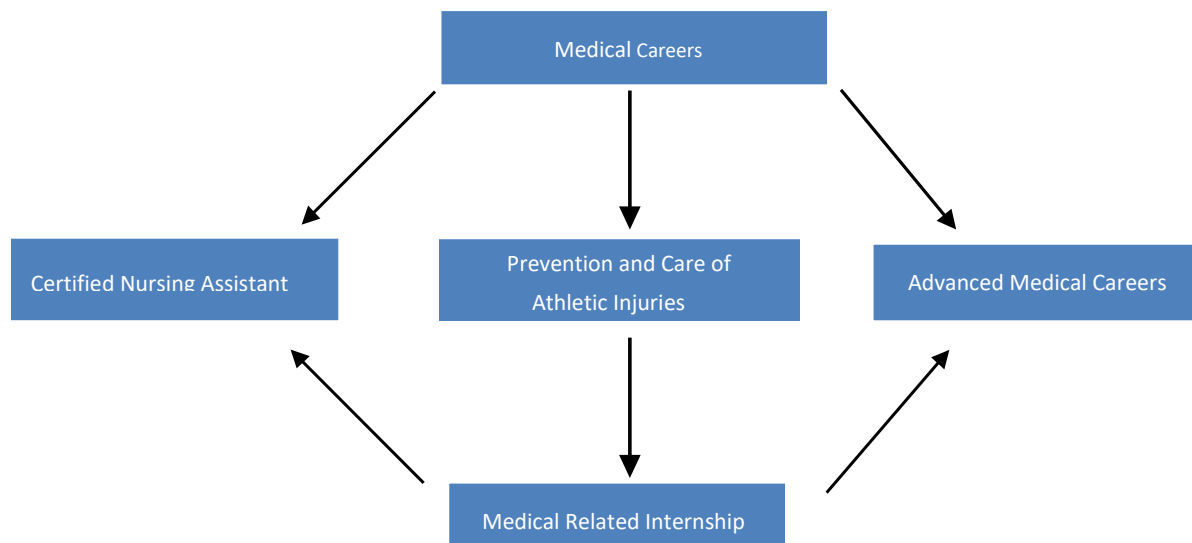
Coordinated Plans of Study for North Dakota Career and Technical Education Scholarship

MEDICAL CAREERS

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
Must complete at least 2 credits			Must complete at least 2 credits		



MEDICAL CAREERS (Formerly MEDICAL RELATED CAREERS I)

BHS, CHS, or LHS

Grade Placement: 10, 11, 12.....1 credit..... Full Year

This year-long course provides students with information relating to the educational and professional requirements for the various medical careers. Students will also study the fundamentals of disease transmission and prevention, basic anatomy and physiology, and medical terminology. Students will complete CPR/AED for the Professional Rescuer and American HeartSaver First Aid certification during the course.

CERTIFIED NURSING ASSISTANT (CNA)**BPS Career Academy****Grade Placement: 11, 12.....1 credit (Block Class)..... Semester 1 or 2***Fee: \$25 plus cost of flu vaccination**Prerequisite: Medical Careers & Current First Aid & CPR/AED for Healthcare Providers*

This course provides classroom instruction and clinical practice to prepare the student for employment as a CNA in a skilled nursing facility, acute care, or home health care setting. Upon successful completion of clinical hours and course requirements, students are eligible to take the CNA certification exam through Headmaster. Up-to-date vaccinations including influenza and a TB test are required per facility policy, as is a current Healthcare Provider CPR/AED certification. (Refresher course will be offered.) Students must have a background check. The student is responsible for necessary vaccinations, transportation to clinical sites, and the state exam fee. Required clinical hours are outside of class time.

BLENDED LEARNING-CERTIFIED NURSING ASSISTANT (CNA)**Online & BPS Career Academy****Grade Placement: 11, 12.....1 credit (Block Class)..... Semester 1 or 2***Fee: \$25 plus cost of flu vaccination**Prerequisite: Medical Careers & Current First Aid & CPR/AED for Healthcare Providers*

This course uses the blended learning structure of online and in-class instruction. Students will complete the theory coursework online and meet face-to-face for skill labs, activities, and clinicals. Students will be required to meet face-to-face in the classroom 1-2 days per week. This course provides instruction and clinical practice to prepare the student for employment as a CNA in a skilled nursing facility, acute care, or home health care setting. Upon successful completion of clinical hours and course requirements, students are eligible to take the CNA certification exam through Headmaster. Up-to-date vaccinations including influenza and a TB test are required per facility policy, as is a current Healthcare Provider CPR/AED certification. (Refresher course will be offered.) Students must have a background check. The student is responsible for necessary vaccinations, transportation to clinical sites, and the state exam fee. Required clinical hours are completed outside of class time.

ADVANCED MEDICAL CAREERS (Formerly MEDICAL RELATED CAREERS II) BPS Career Academy**Grade Placement: 11, 12.....1 credit (Block Class).....Semester 1 or 2***Fees: \$25 plus the cost of flu vaccination, TB test, & "My Clinical Exchange" registration fee if job shadowing in a hospital/clinical setting.**Prerequisite: Medical Careers*

This course will expand on the knowledge gained in Medical Careers. Students will have the opportunity to explore various medical careers through research, professional guest speakers, college tours, clinical simulation lab and potential job shadows. The curriculum is designed to enhance student employability skills and professional medical career readiness. If job shadowing: up-to-date vaccinations including influenza and a TB test are required per facility policy. All students must have a background check. The student is responsible for necessary vaccinations and transportation to clinical sites.

MEDICAL TERMINOLOGY**Online Course****Grade Placement: 11, 12..... 1/2 credit..... Semester 1 or 2***(Students must be 16 years of age)*

This year-long course provides students with information relating to the educational and professional requirements for the various medical careers. Students will also study the fundamentals of disease transmission and prevention, basic anatomy and physiology, and medical terminology. Students will complete CPR/AED for the Professional Rescuer and American HeartSaver First Aid certification during the course.

Dual credit through BSC is available.

PREVENTION AND CARE OF ATHLETIC INJURIES

BPS Career Academy

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

Fee: \$15

Prerequisite: Medical Related Careers

An introductory course for students interested in the field of Sports Medicine. General principles covered include: prevention, recognition, and immediate care of athletic injuries; equipment fitting; rehabilitation of athletic injuries; basic nutrition; HIPAA; hands-on activities - taping and wrapping techniques, goniometry. Classroom learning is enhanced through job shadowing. Job shadow experiences are outside of class time and the student is responsible for transportation to job shadow sites. Successful completion of this course fulfills the prerequisites for becoming a Sports Medicine Assistant with BPS (There is a difference between a student manager and a Sports Medicine Assistant). **Dual credit through the University of Mary is available.**

Information Technology Cluster

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

INFORMATION TECHNOLOGY

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	½ - 1	27101	Intro to Computers	½ - 1	27101	Intro to Computers	½ - 1
27219	Computer Hardware	½ - 1	27219	Computer Hardware	½ - 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		

COMPUTER HARDWARE

BPS Career Academy

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

Recommended: Intro to Computer Software

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.

INTRO to COMPUTERS (Formerly Intro to Computer Software)**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).

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.

Science, Technology, Engineering, and Math Cluster (STEM)**Coordinated Plans of Study for North Dakota Career and Technical Education Scholarship****TECHNOLOGY 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	Foundations of Technology	1	10111	Building Systems	1
10410	Creative Engineering: (Technological Design)	1	10111	Building Systems II	1
10338	Creative Engineering: (Advanced Design Application)	1	10259	Architectural Design	1
10411	Robotics Engineering	1	10260	Tech Design/3D Modeling	1
			10331	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**

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, conduct materials tests, 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

BPS Career Academy

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

Lab Fee: \$20

If you enjoy any type of woodworking and construction this class is for you. Students will explore how to use tools and machines used for building in construction. Students will demonstrate by cutting, fastening, assembling and framing walls for siding, windows and doors; dry walling, mudding, taping, and texturing along with fixing holes in the wall. Students will learn the different types of woods and wood composites. In addition, students run electrical wiring to outlets and switches and the various lighting and electrical circuits. Projects using stone, and concrete are introduced. Plumbing will be introduced by setting toilets and sinks, running vents and p-traps, and working with PVC, pex and copper. As the semester finishes all students will design, create, and build a small final project.

BUILDING SYSTEMS II

BPS Career Academy

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

Prerequisite: Building Systems

Lab Fee: \$20

If you enjoyed Building Systems, 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, countertop construction and repair, roofing, heating, ventilation and air conditioning, underground sprinkler systems, security systems (locks and cameras), and brick/stone mason work. We will cover tools, materials and vocabulary in all these trade areas. Small project at the end of the semester.

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 in teams on a design problem (arcade game), and in the process will experience the engineering design process. Students will be able to make engineering choices for their projects based on their skills and what they have learned.

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 one Career Academy or Tech Center class

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 question, 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 a design problem. Students will be able to make engineering choices for their projects based on their skills.

ENERGY & POWER PRODUCTION

BPS Career Academy

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

If you are interested in the energy industry, then look at what this class has to offer. Hands-on activities include tool safety, building wind turbines, solar cars, catapults, hydroelectric turbines; pneumatics, duct tape boats, and a LED light project that you get to take home. Tours that may be possible are of the BSC Energy Center, a power plant, and a job-shadow day at Coteau Freedom Mine where you can ride-along in the coal hauling trucks and in the dragline. Students will learn how to use various motors, gears, and mechanisms that utilize a variety of energy sources. You will examine various forms of energy including mechanical, chemical, nuclear, electrical, and heat energy.

FOUNDATIONS OF TECHNOLOGY

BPS Career Academy

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

Lab Fee: \$20

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, rockets, 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, and an energy & power unit with a possible tour of Coteau, Antelope Valley Station, and Dakota Gasification Company in Beulah.

ROBOTICS

BPS Career Academy

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

The Robotics experience will provide the student with an overall study of robotic construction and bluetooth control. The class will study the physics and mechanical systems and aspects through relevant activities and projects. The robotic equipment used for this class will be Vex Robotics systems. Robots to be built may include the crane, square bots, speed bot, stair climbers along with robotic arms and possible battle bots.

TECH DESIGN/3D MODELING

BPS Career Academy

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

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 creativeness throughout the designing and building phase of their project. Solidworks is a professional design software program used in this class.

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	½ or 1
Must complete at least 2 credits		

CARPENTRY FRAMING

BPS Technical Center Grade

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

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, sheathing, insulating, siding, metal soffit system, shingling, window and exterior door installation, and drywall. Proper safety methods and appropriate use of carpentry tools are stressed throughout the course.

CARPENTRY INTERIOR

BPS Technical Center

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

The students will design/draw individual plans for a 1600 sq. ft. home. The students will build and install a variety of oak cabinets used in the house-building project each year. Students will also learn how to cut, assemble, install, and finish all interior woodwork and countertop 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	2
17813	Aviation II	2	17031	Auto Collision II	2
			17032	Automotive Technology I	2
			17037	Automotive Technology II	2
17950	Trade & Industry Capstone	½ or 1	17950	Trade & Industry Capstone	½ or 1
Must complete at least 2 credits			Must complete at least 2 credits		

AUTO COLLISION I

BPS Technical Center

Grade Placement: 10, 11, 122 credits (Block Class).....Full Year

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, usage and 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.

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

Student 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 a 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

The aviation program is one-of-a-kind in North Dakota. We prepare our students for the private pilot verbal and written exam, utilizing the flight simulators along with the Kerbal Space Software Program. Some of the topics we investigate and apply are aerodynamics, weather forecasting, navigation, air traffic control, aircraft engineering, aviation law, physiology, performance, career opportunities, airframe and power-plant. A highlight is the opportunity students will have to take control of an aircraft in flight.

AVIATION II

BPS Career Academy

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

Prerequisite: Aviation I

This course prepares future pilots, air traffic controllers, mechanics and educators for the 21st century. The students learn advanced aerodynamics, airmanship and navigation. Focus is placed on aircraft manufacturing and assembly of an aircraft. Students also receive training for Unmanned Aerial Vehicles and research how they are going to affect our society in the future. At the completion of the course, students will be prepared to pass the FAA private and unmanned aerial vehicle written exams.

Extended Learning Opportunities

CAPSTONE SEMINAR

BPS Career Academy

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

*Prerequisite: Must talk with Career Advisor or Counselor **prior to registration** & have completed four credits in a Career Pathway*

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.

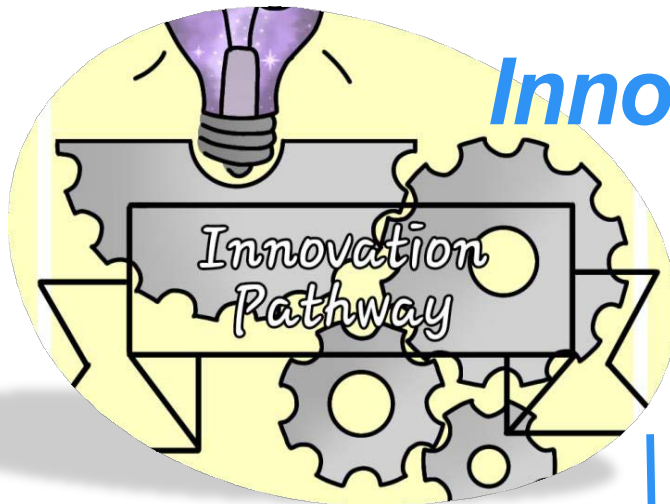
INTERNSHIP

Grade Placement: 11, 12.....Semester 1 or 2.....May earn up to 2 credits

*Prerequisite: Must meet with Career Advisory **prior to registration** & must have earned one full credit in a specific pathway of a CTE Coordinated Plan of Study.*

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 October 1st & deadline for spring semester is February 1st. 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.

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



Innovation Pathway

Innovation Pathway at the Career Academy is a **personalized** path to graduation based on **who students are and how they learn best**. Whether you've already got career plans and **aspirations** or aren't sure what you want to do after high school, the innovation pathway can provide **opportunities** to earn the credits that you need to **graduate** while engaging in **authentic, self-directed learning** in areas that are interesting to you. We're here to **empower every learner to thrive!**

WHAT'S IT ALL ABOUT?

What do I need to be in the Pathway?

You just have to want to!

- CTE interest
- 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!

The pathway 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 Pathway right for me?

Can you answer "yes" to any of these?

- Do you want to add value to your community?
- Do you enjoy hands on learning?
- 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 real-world experiences?

Do the *work* you need to do for *school*...

...in a *school* that *works* for you!

What credits can I earn?*

ENGLISH COURSES

- English 11
- English 12

MATH COURSES

- Integrated Math II
- Integrated Math III

SOCIAL STUDIES COURSES

- Government
- Economics
- U.S. History

SCIENCE*

PE*

*other classes may be available upon request

Talk to your
counselor or career
advisor to apply.

