

CTE & Engineering (Single Block: One Period)

Class	Prereqs and helpful information from the teacher
Auto Collision I	Have you ever wondered how cars are built or what happens to them after they are crashed? In this course you will learn about the construction of vehicles, how to repair them after an accident and how to paint them. This is a 3 year program with the opportunity to earn I-CAR certifications.
Aviation Technology I	This introductory ground school course focuses on the foundational principles of flight training, including aerodynamics, aircraft systems, flight instruments, and aeronautical decision-making. Students also explore airport operations, airspace, navigation, and basic weather theory. Through engaging lessons and simulator instruction, students build a solid base of knowledge and skills, starting their journey toward becoming a pilot. No prior experience is required—just a passion for aviation and a readiness to learn!
UAS Drones	This course prepares students to pilot drones under the FAA Part 107 guidelines for small unmanned aircraft systems (sUAS) and to take the FAA Part 107 certification exam. Students gain a comprehensive understanding of the national airspace system, FAA regulations, weather monitoring, drone performance, and flight operation logistics. Through hands-on training and piloting, students develop the technical and administrative skills necessary for safe and effective drone operations, opening pathways to exciting careers in a growing industry. No prior experience is required!
Carpentry I	Explore & practice safe use of hand & power tools Learn how to harvest raw materials (turn logs into lumber) Calculate lumber volume, grading, and value Read and interpret blueprints and project plans Layout, cut, drill, rasp, sand and finish a wooden project <i>Example projects include a wooden tool box, cutting board, sawhorse, and small garden shed</i>
Electricity I	Students will earn OSHA 10 certification which is a required safety certification on many jobs. They will learn Ohm's law and how to build circuits. They will also receive HBI (Home Builders Institute) core certification
Engineering I	Introduction to the engineering design process, tailored to spark curiosity and build critical thinking skills among freshmen at Arlington Tech. Through hands-on, project-based learning, students engage in real-world challenges such as creating and launching 3D-printed rockets, developing Bluetooth-controlled vehicles, and building mousetrap cars. They master 3D modeling software and use tools like 3D printers and laser cutters. Additionally, students study data science and analytics to evaluate performance metrics and identify the best designs and outcomes. This class is good for students who are curious problem-solvers who value collaboration, are detail-oriented, and embrace challenges with creativity and persistence. Students may struggle in this class if they prefer traditional, lecture-based instruction over hands-on learning or find it challenging to embrace open-ended problem-solving (where answers are not always immediately clear), and are reluctant to collaborate or adapt to constructive feedback.
Digital Electronics	Prereq - Intro to Engineering This course introduces students to the foundational concepts and practical applications of electronic systems through hands-on projects, circuit designs and lessons about logic gates, microcontrollers, and programmable devices. They learn to analyze and construct digital circuits, using tools like breadboards and simulation software to prototype and test their designs. They will also build custom circuits to solve unique challenges, and developing a strong understanding of Boolean algebra and its role in digital logic. Students who succeed in this course are logical thinkers who enjoy solving complex problems and working hands-on with technology. Those who are detail-oriented, curious about how systems function, and motivated to experiment and iterate on designs will thrive in this dynamic environment. Students may struggle in this class if they struggle with abstract thinking and have difficulty applying mathematical concepts to real-world scenarios. (NOT A SUBSTITUTE FOR CTE ELECTRICITY CLASS)
Engineering II - Principles of Engineering	Prereq - Intro to Engineering This class covers mechanical and mathematical principles of engineering, simple machines & mechanical devices, some robotic automation and minor coding, and learning about forces in structures like bridges. A lot of hands on design and fabrication challenges. Good for students who enjoy working with Legos, working in TEAMS and putting their hands to use. Students may struggle in this class if Algebra was hard, are frustrated by PBL and innovation is hard.
Computer Assisted Architectural Drawing	Research architectural styles and designs over time Explore developments in building techniques Use Autodesk Revit to... Practice industry standard design strategies Develop a full set of Architectural plans included floor plans, elevations, sections and site plans Build a 3D model
Engineering - Advanced Drawing & Design (CAD)	Students will learn Fusion 360, a world class CAD software package which provides industry certification. Fabrication using 3D printers, lasers, & CNC routers - designing machine parts, molds, adapters, furniture, etc. Good class for students who like to make things, fabricate parts for robots or science classes, etc. Students may struggle in this class if Geometry or 3D/spatial conceptualization is hard, if they can't sit at a computer concentrating and/or can't persist through technical hurdles.
Materials & Processes Technology	The science and engineering of solid materials and how to manufacture and produce the materials. It is an extension of chemistry with a focus on how and why materials are selected for its intended purpose. This elective is great for students who love science, especially Chemistry.

Computer Integrated Manufacturing Engineering	<p>Prereq - Intro to Engineering & Grades 11-12</p> <p>This is a culminating course that bridges engineering design with advanced manufacturing techniques, giving students a comprehensive understanding of how products are developed and produced in modern industries. Students learn to design and fabricate products using tools such as CNC machines, 3D printers, and laser engravers while gaining proficiency in CAD software and manufacturing workflows and students create products that incorporates 3D-printed components with CNC-milled parts. The course emphasizes industrial automation, quality control, and lean manufacturing principles, preparing students for careers in engineering and advanced manufacturing. This class is good for students who have a strong background in CAD, 3D printing, and digital fabrication tools. These students are ready to hit the ground running, applying their existing skills to complex projects that integrate multiple manufacturing processes. Students may struggle in this class if they don't have a solid foundation in CAD and digital fabrication. Additionally, individuals who prefer a slower-paced learning environment or struggle with independently troubleshooting technical challenges may face significant obstacles in keeping up with the demands of this course.</p>
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CTE & Engineering (Double Block: Two Periods)

Class	Prereqs and helpful information from the teacher
Aviation Technology II	This advanced ground school course prepares students to take the FAA Private Pilot Written Examination, a critical step in becoming a pilot. Students focus on topics like meteorology, navigation, physiology, aircraft maneuvers, and aircraft weight and balance. Hands-on simulator instruction and advanced lessons refine their skills and knowledge, equipping them for success in aviation careers!
DE Auto Tech I *	<p>Our program gives them a chance to work on vehicles (personal or family, teachers, and donated vehicles). Highlights of the program are:</p> <ul style="list-style-type: none"> -All 3 levels are Dual-Enrolled with NOVA, a total of 10 college credits if all 3 years are completed. -A paid summer internship with local Dealerships & shops for AYES Program (optional) -They can take student level ASE Certifications in Maintenance Light Repair (MLR), Brakes and Suspension. -They will become certified in Shop Safety & Pollution Prevention. <p>Levels 2 and 3 have the same highlights but they are more advanced learning as they go up in levels.</p>
DE Auto Tech II *	
DE Auto Tech III *	
Auto Collision II	In this course, students will learn painting and refinishing techniques that include surface preparation; spray gun operation; paint mixing, matching, and applying; and final vehicle detailing. Students who successfully complete this program sequence may be eligible to take an industry-recognized certification exam.
Auto Collision III	This course allows students to apply knowledge and skills learned in Auto Body Technology I and II and may also be used as a capstone course in which students may perfect their collision repair skills to move toward employment in the industry. Students who successfully complete this program will be prepared to take an industry recognized certification examination and will be prepared for post-secondary education opportunities. Students who successfully complete the program sequence will be prepared to take and pass their respective ASE/NATEF exam and will be prepared the post-secondary education opportunities.
Carpentry II	<p>Practice safe use of hand & power tools Maintain and service woodworking equipment Read and interpret blueprints and project plans Explore residential construction practices such as floor framing, wall framing, roof framing and stair construction Layout, cut, drill, rasp, sand and finish a wooden project <i>Example projects include a small residential structure, advanced cutting board & coasters, Adirondack Patio Chair and/or Shaker End Table</i></p>
Carpentry III	Carpentry III is an advanced course where students gain hands-on experience in construction skills. They focus on areas like building decks and porches, alternative framing, interior finishes, and drywall installation. The course also covers energy efficiency, green technology, licensure requirements, and entrepreneurial opportunities. Students participate in activities that enhance leadership and career skills, while high-quality work-based learning offers practical experiences aligned with their career goals, in partnership with local businesses.
Electricity II	Builds on level 1 skills. They will explore the National Electrical Code (NEC) and learn conduit bending. This class also does a lot of work around the school
Electricity III	Level III is in class with level II. They often help in the lab. They learn alternative energy and basic motor controls as well.

Human/Public Services (Single Block: One Period)

Class	Prereqs and helpful information from the teacher
	<p>In Space Force JROTC, the class lessons focus on Aerospace (Col Dierlam) and Leadership (MSgt Victor) lessons.</p> <p>Cadets are required to wear the Space Force JROTC all day once a week and to meet the Space Force grooming standards to include a professional military hair style</p>

Space Force JROTC I, II, III, IV	grooming standards to include a professional military hair style. Cadets are expected to attend 4 outside of class activities during the school year. To become a cadet leader cadets must attend some of our afterschool activities after school on Tuesday, Wednesday, and Thursday. However, a student can earn an A grade in the class by accomplishing the class lessons and wearing the uniform properly each week. To become the cadet squadron commander, the cadet must be able to attend our afterschool activities on a regular basis.
Criminal Justice I	Students will learn the basics of the criminal justice system. This Career and Technical Education (CTE) class covers important topics like: Law enforcement, the court system, corrections (prisons and rehabilitation), forensic science. Students will learn about the different roles in criminal justice and gain practical skills through interactive lessons, real-life situations, and hands-on activities.
Criminal Justice II	Criminal Justice II builds on what students learned in Criminal Justice I. It focuses more on specific topics like criminal law, investigation methods, and advanced forensics. This course is for students who want to continue their studies in criminal justice and gain more skills through hands-on projects and experiences.
DE Teachers For Tomorrow I	Do you want to be a teacher? Have you ever wondered how a teacher created a lesson, why they chose their specific reading or topic for class, and what teaching is like in other states? Teachers for Tomorrow 1 is a dual enrollment class through NOVA Community College. You will receive three college credits and the opportunity to be a teacher's aide in a middle or high school classroom. You will learn about the history of education, how to create lesson plans and develop classroom management skills to make you the most effective teacher. This course is a full year and allows juniors and seniors to participate. If you have any other questions, please reach out to cole.forbes2@apsva.us
DE Teachers For Tomorrow II	After completing Teachers for Tomorrow I, do you want to spend more time as a teacher's aide in a classroom? Do you want to dive deeper into children's development habits and progress? In Teacher's for Tomorrow II, you will learn about each stage of human development. You will study what to expect from pre-birth to adulthood and the specific developmental patterns in each stage. Then, you will learn how to use that information in your lesson plans. Since it will be your second year with me, you will spend more time with your host teacher in the classroom. You can build more skills as a teacher, instruct more lessons in a live classroom, and learn how to read and write at the college level. This dual enrollment class is with NOVA Community College, and Teachers for Tomorrow I is a prerequisite. If you have any other questions, please reach out to cole.forbes2@apsva.us.
Culinary Arts Specialization III - Baking & Pastry Culinary Arts Specialization III - Catering & Banquet	12th grade * Develop skills and knowledge to pursue careers in the Baking & Pastry Industry. * Perform high level baking and pastry productions techniques: Quick Breads, Artisan Breads, Custom Cake Decorating, Frozen & Specialty Desserts * Opportunity to earn industry certification and articulation college credits through successful program completion: American Culinary Federation Certified Fundamental Pastry Cook * Authentic real-world application through participation in Pop-Restaurant, Food Truck, Catering Events, & culinary competitions

Human/Public Services (Double Block: Two Periods)	
Class	Prereqs and helpful information from the teacher
Barbering I	This introductory course is for students aiming to become master barbers. Students will practice their skills in a clinical lab setting using mannequins and live models. The program focuses on personal safety, professionalism, scalp and hair care, hair cutting, styling, coloring, shaving, and barbershop management. Participation in co-curricular activities helps develop leadership and career skills. High-quality work-based learning provides practical experiences aligned with students' career goals through partnerships with local businesses. Prerequisite: None OSHA Compliance Required?: Yes CTSO: SkillsUSA Fees: KIT \$320/ Lab Jacket \$33
Barbering II	This course builds on the knowledge and skills from Master Barbering I. Students will practice in a clinical lab using mannequins and live models. The program focuses on safety, professionalism, hair cutting, styling, shaving, barbershop management, and chemical services. Participation in co-curricular activities enhances leadership and career skills. High-quality work-based learning offers practical experiences aligned with students' career goals through partnerships with local businesses. Prerequisite: Master Barber I OSHA Compliance Required?: Yes CTSO: SkillsUSA
Barbering III	In this advanced course, students enhance their barbering skills, focusing on hair cutting and styling on live models while emphasizing professionalism, client consultation, safety, and infection control. They learn safe chemical processes for texture services and advanced hair coloring techniques, as well as artistic skills with wigs and hair additions. The course includes a business management unit for creating a barbershop business plan and prepares students for the Virginia State Licensing Exam. Participation in co-curricular activities builds leadership and career skills, while high-quality work-based learning offers practical experiences aligned with students' career goals through local business partnerships. Prerequisite: Master Barber II OSHA Compliance Required?: Yes CTSO: SkillsUSA

Cosmetology I	<p>In this introductory course, students learn about hair, skin, and nails, focusing on their care. They gain theoretical knowledge and practice skills in a lab setting using manikins. The course emphasizes safety, professionalism, and sanitation. Students develop abilities in shampooing, conditioning, styling, cutting hair, hair coloring, and manicure/pedicure procedures. Participation in co-curricular activities helps build leadership and career skills. High-quality work-based learning offers practical experiences aligned with students' career goals through partnerships with local businesses.</p> <p>Prerequisite: None OSHA Compliance Required?: Yes CTSO: SkillsUSA Fees-KIT \$360/ Lab Jacket \$32</p>
Cosmetology II	<p>In this continuing course, students enhance their knowledge of cosmetology by improving their hair cutting and styling skills on live models. The focus is on professionalism, client consultation, safety, and infection control. Students learn safe chemical processes for permanent waves, relaxers, lightening, and coloring hair. They also gain experience in skin, hand, and foot care, including facials, manicures, pedicures, and nail enhancements. A business management unit teaches salon management. Participation in co-curricular activities helps develop leadership and career skills, while high-quality work-based learning provides practical experiences aligned with students' career goals through local business partnerships.</p> <p>Prerequisite: Cosmetology I OSHA Compliance Required?: Yes CTSO: SkillsUSA</p>
Cosmetology III	<p>In this advanced course, students enhance their cosmetology knowledge and skills in hair cutting and styling on live models, focusing on professionalism, client consultation, safety, and infection control. They learn safe chemical processes for texture services and advanced hair coloring techniques, as well as skills in using wigs and hair additions. The course also covers skin, hand, and foot care, providing experience in facials, manicures, pedicures, and nail enhancements. An advanced business management unit teaches salon management and business planning. Completing this course prepares students for the Virginia State Licensing Exam. Participation in co-curricular activities builds leadership and career skills, while high-quality work-based learning offers practical experiences aligned with students' career goals through local business partnerships.</p> <p>Prerequisite: Cosmetology II OSHA Compliance Required?: Yes CTSO: SkillsUSA</p>
DE Early Childhood Education I *	<p>Early Childhood Education is a great class for students who like to be around kids. Current students say the best part of our class is Fieldwork on Tuesdays and Thursdays.</p> <p>In Fieldwork, the students assist in our daycare classrooms with infants, toddlers, preschoolers, and school-aged children (at the Montessori school). Examples of what they do in Fieldwork include reading to children, helping them with snacks, participating in morning circle time, or helping kids with a craft or project. Class days are interactive including warm-ups, movement breaks, small group work, and class discussions. We don't have many tests but we do real-life projects. Examples of projects include planning and implementing age-appropriate activities for children, creating a class schedule, and making lesson plans. We aim to be a very engaging class and we believe learning can be fun!</p>
DE Early Childhood Education II *	<p>In addition to the format described above, students spend time observing in our Career Center Preschool. The ECE II students Student Teach in our Career Center Preschool as the culminating activity for the year.</p>
Culinary Arts & Sciences I	<p>10th & 11th grades</p> <ul style="list-style-type: none"> * Develop skills in commercial food safety & sanitation procedures * Practice food-preparation techniques and service * Authentic real-world application through participation in Pop-Restaurant, Food Truck, Catering Events, & culinary competitions
Culinary Arts & Sciences II	<p>11th & 12th grades</p> <ul style="list-style-type: none"> * Opportunity to earn industry certification and articulation college credits through successful program completion: ServSafe Food Protection Manager & American Culinary Federation Certified Fundamental Cook * Perform a wide range of more advanced food-preparation techniques including Garde Manger and Baking & Pastry * Refine their dining room serving skills, develop menus, perform on-site and off-site catered functions, and strengthen their business and math skills. * Authentic real-world application through participation in Pop-Restaurant, Food Truck, Catering Events, & culinary competitions
Health & Medical (Single Block: One Period)	
Class	Prereqs and helpful information from the teacher
Emergency Medical Technician III	<p>This course is for students who have completed EMT I and II, received instructor approval, and may have EMT certification from Virginia. It focuses on enhancing skills for assisting advanced life support (ALS) providers and building on emergency medical services (EMS) education. Students will also learn to coordinate with public health and safety services like fire, law enforcement, and emergency management. The course includes both mentoring and instruction, with a requirement to complete at least 85% of the coursework and lab activities.</p>

DE Medical Terminology	Ever wanted to speak the language of doctors, nurses, and medical pros? In this class, you'll unlock the mysteries of terms like "cardiomyopathy" and "otosclerosis" while preparing for your future in healthcare. Earn high school and college credit through NOVA, and take the first big step toward your dream career! From diagnosing pretend patients to mastering medical lingo, this course makes learning fun, fast-paced, and rewarding. Don't just dream about saving lives—start now!
Pharmacy Technician	In this course, training to become a pharmacy technician will include instruction and hands-on experience in areas such as prescription processing, medication preparation and dispensing, medical terminology, pharmacology, pharmacy calculations, and related information that's required to assist pharmacists. One could then work in such settings as pharmacies and other healthcare locations such as hospitals or clinics. Students who are about to graduate will be eligible to take a certification exam. Not only can this course prepare one to work in a pharmacy setting, but because of the curriculum, it could be a foundation for pursuing other careers such as nursing, medicine or other related healthcare areas.
DE General Biology	8 credits from NOVA, need to want to work. Not a lot of homework but A LOT of studying. Goes extremely fast, students should be prepared to do some of this EVERY NIGHT . If you cannot commit to intense study, this is not the class for you.
DE Biology II Anatomy & Physiology Requires a NOVA placement test.	4 credits from NOVA, need to take a test through NOVA to place into this class. Lots of memorization but less fast-paced than Bio 101. Quite a lot of homework.
Health & Medical (Double Block: Two Periods)	
Class	Prereqs and helpful information from the teacher
Forensic Science & Biotechnology Foundations in HMS	Totally fun class, preparation for studying forensic science in college, MANY students have gone on to colleges in Forensic Science and/or careers in the field. Best for 11th and 12th graders because of the graphic nature of the class. Lots of labs, lots of writing, some homework, but not every day.
Small Animal Care I & II	Are you interested in working with animals someday? How about right now?!
	In Small Animal Care I and II, students spend half of the time in the classroom learning about animals and how to care for them. The other half of the time, students are assigned a real animal to take care of during class! We have over 200 animals spanning over 60 different species in our program. Students are responsible for preparing the animals' diets, grooming and training them, providing physical and mental exercise, and cleaning up after them! Take a rabbit for a walk! Teach a cockatiel how to sing! Use chemistry to create a frog-safe pond! Help a snake to shed their skin! Train a rat to move through an obstacle course!
	We cover topics like the history of animal domestication, breeds and characteristics, reproduction, health and disease, and more! We even bring in industry professionals and take field trips to teach students about many of the different animal-related careers that exist. This is the perfect class for someone who is interested in pursuing a career with animals and would like to learn more, gain experience, and build industry connections. We also have a partnership with the NOVA Vet Tech program for students who are interested in taking their passion for animals to the next level.
Veterinary Science I & II	These courses prepare students for careers in veterinary medicine and related fields. Key topics include: Animal care and safety practices, anatomy and nutrition, medical terminology and sanitation, clinical exams. Students also learn important skills such as communication, facility operations, and professional etiquette. Practical skills include first aid, surgery preparation, aseptic techniques, and medication administration, with hands-on experience working with live animals. Who Should Take This Class: Students should be comfortable caring for animals and understand the risks of getting bitten or scratched. It's important not to have severe allergies to pet dander. This class is NOT just a "play" with animals class —there is real content involved that can be quiet challenging. That being said, if students keep up with the classwork, attend regularly, and use the study guide to help them prepare for tests, most students will find that they can be successful in this class.
DE Emergency Medical Technician I & II *	This is a college-level one-year course that is geared to prepare the students who are 16 years or older for the national registry test to become an EMT. The first portion of the course will focus on the basics of EMS training, while the second half will take a deeper dive into medical illnesses and traumatic injuries. The pace of the course and the content are similar to a college level course and therefore, prior academic strength is crucial for students to be successful. Instructor expectations of the students are high as the course is demanding. Students will learn hands on EMS skills in lab settings and will receive lectures from various instructors with significant field experience at the BLS and the ALS levels. Qualified students (GPA, attendance and participation) will have the opportunity to engage in clinicals at fire stations and/or emergency rooms to complement their in-class learning experience. In addition to providing the students a possible 8-college credit hours at the NVCC level, the EMT class provides two high school credit hours to students successfully completing it

<p>DE Physical/Occupational Therapy I *</p>	<p>In this introductory course, students will explore the foundational concepts and practices of physical and occupational therapy. This hands-on, engaging program is designed to help students develop essential skills and knowledge for careers in rehabilitative care.</p> <p><u>Key Expectations and Learning Objectives:</u></p> <ul style="list-style-type: none"> * Comfort in Working with Others: Develop the ability to work with both peers and adults in a professional setting. * Manual Therapy Techniques: Learn and practice manual massage techniques used in therapy. * Vital Signs: Master skills in measuring and understanding vital signs, including blood pressure, pulse oximetry, temperature, and heart rate. * Musculoskeletal Taping: Gain hands-on experience in athletic taping and Kinesiology (KT) taping techniques. * Injury Knowledge: Build an understanding of the physiological and anatomical concepts behind musculoskeletal injuries. <p><u>Rehabilitation Modalities: Learn to apply therapies like:</u></p> <ul style="list-style-type: none"> * Moist heat * CryoCuff and cold packs * Cupping therapy * TENS (Transcutaneous Electrical Nerve Stimulation) * Normatec Massage System <p><u>Special Experiences:</u></p> <ul style="list-style-type: none"> * Cadaver Lab Visit: Participate in an educational visit to the NOVA Medical Campus Cadaver Lab to deepen anatomical understanding. * Community Clinic: Gain real-world experience by providing health screenings to students and adults at the Arlington Career Center. * Shadowing Opportunities: Observe professionals in action at Virginia Hospital Center and Ivy Rehab to see therapy techniques in practice. <p><u>Certification Opportunity:</u> Earn a Physical Therapy Technician Certification through the American Medical Certification Association (AMCA) (students must be 17 years old to take exam.)</p>
<p>Physical/Occupational Therapy II</p>	<p>Building on the foundations of Physical/Occupational Therapy I, this advanced course expands students' skills and understanding to prepare them for further education and careers in rehabilitative therapy.</p> <p><u>Advanced Learning Objectives:</u></p> <ul style="list-style-type: none"> * Everything in Level I, with deeper exploration and practice. * Joint Mobilization: Learn advanced concepts in mobilizing joints to improve function and reduce pain. * Goniometry: Accurately measure joint angles to assess movement and function. * Orthopedic Special Tests: Conduct special tests for joint assessment to identify potential injuries or impairments. * Expanded Shadowing Opportunities: Observe advanced practices at Virginia Hospital Center and Ivy Rehab clinics. <p>Certification Opportunity: Earn a Physical Therapy Technician Certification through the American Medical Certification Association (AMCA) (students must be 17 years old to take exam.)</p> <p>This course provides a professional, hands-on learning experience, equipping students with certifications and a strong foundation for pursuing higher education and careers in physical and occupational therapy.</p>
<p>IT/Digital Media, Business & Fine Arts (Single Block: One Period)</p>	
<p>Class</p>	<p>Prereqs and helpful information from the teacher</p>
<p>DE Webpage Design & Multimedia *</p>	<p>You'll build a beautiful personal portfolio website. Along the way you'll become a wiz at using your computer, learn some design concepts, how the internet works, and a bit about cybersecurity. At the end of this class, you'll have a good idea of what you want to study next - programming, cybersecurity, and/or graphic design.</p>
<p>DE Computer Programming Year 1</p>	<p>Prereq - DE Webpage Design</p> <p>You'll use Python to develop an interactive web application. You'll build on your skills from Web Page Design (a strict pre-requisite), learn how interactive web pages work, and earn your Python certification.</p>
<p>DE Intensified Computer Programming Year 2</p>	<p>Prereq: must pass Computer Programming I or have a 3 or higher on AP CS exam</p> <p>After becoming a Python expert in DE Programming I, you'll expand your programming experience in a new language! You'll earn your C++ certification, a powerful, lower-level programming language. The Spring is more of a math class - you'll explore the world of 'Discrete Math' - which is very useful in the world of computer science.</p>
<p>DE Advanced Computer Programming Year 3</p>	<p>Prereq - must pass Computer Programming II</p> <p>This class builds on experience from DE Programming II - we'll peel back even more layers to understand how computers work by exploring the Altair 8800- one of the first ever personal computers. Along the way, we'll learn machine code, assembly, and C. In the Spring, you'll return to C++ to explore algorithms and data structures - fundamental concepts that will prepare you for a college computer science major.</p>

DE Database Design & Management *	<p>Prereq: must pass DE Computer Programming I or have permission of instructor</p> <p>In DE Programming I you're exposed to the concept of databases. In this class, you'll become an expert at database optimization, management, and maintenance. You'll also explore data visualization and how databases and data analysis are used in a business context, learn some data science and machine learning concepts, and play with a lot of exciting data sets. DE Programming I is a strict pre-requisite - we'll assume you're already very comfortable with Python and already know a bit of SQL.</p>
Graphic Communication Systems (aka graphic arts or graphic design)	<p>We use Adobe Photoshop and Adobe Illustrator. You don't need artistic skills... this is a CTE class. I'm grading on did you use the Adobe technical skills introduced for the assignment. Most assignments are "open ended" and students bringing their ideas and creativity.</p> <p>There's no homework because students don't have the Adobe programs on their laptops. We take the Adobe Certified Professional certification exams (Adobe Illustrator and Adobe Photoshop).</p>
Digital Animation	<p>We do 2D and 3D. In 2D is Adobe Animate and it's like cartoons. 3D is Autodesk 3D Studio Max and it's like video games. We can animate not only the figures and objects but the cameras we view the scenes through. Again, you don't have to be an artist, the programs do the work. This class is very scaffolded. Now that you know how to do this, let's add this to the animation. Now that you can do that, too, let's add another level of skill.</p>
DE TV Media Production I	<p>Dual-enrolled with NOVA- PHT 130- Video 1- Earn 3 college credits.</p> <p>Students stretch themselves through enjoyable, creative, engaging projects. They create short films, commercials, green screen projects, documentaries, how-to videos, PSA's and more.</p> <p>Students will utilize the State of the Art Professional Studio, Lab and Equipment and have access to our state of the art television studio with HD equipment that mirrors industry standards.</p> <p>Students will also use professional cameras and edit footage in our high-powered computer lab, and participate in SkillsUSA and other Video Contests.</p> <p>All students join SkillsUSA which is a student organization that holds contests at the local, state and national levels.</p> <p>We are state champions and former national champions!</p>

IT/Digital Media, Business & Fine Arts (Double Block: Two Periods)

Class	Prereqs and helpful information from the teacher
DE Cybersecurity I - Fundamentals & Network Systems	<p>Students learn the foundational IT skills, covering topics like hardware, software, networking and troubleshooting, In class we will use the most advanced simulation technology that present real-world IT tasks. Students most of the time works on labs.</p>
DE Cybersecurity II - Software & Network *	<p>Students will concentrate in studying on how to protect and attack systems. In Ethical hacking (Software Network Operations) teaches how to find a weakness in the systems, network, or applications with the mindset of a hacker. The class is mostly labs.</p>
DE Cybersecurity III - Software Network Operations & Software Operations Advanced *	<p>Students will learn how to protect computers, networks and data from threats. In this class students will be studying for the CompTIA Security + certification which includes 3-4 performance base questions and approximately 80 multiple choice questions. The test is very rigorous and will be administered by Pearson Vue.</p>
DE TV Media Production II	<p>Dual enrolled with NOVA- PHT 131- Video 2- Earn 3 college credits.</p> <p>Students shoot sophisticated videos using professional gear such as DSLRs and Panasonic film cameras and gliders to gather footage to be edited in our high-powered computer lab. They become certified in Adobe Premiere Pro which is the industry standard for professional video editing.</p> <p>Students compete in SkillsUSA at the local, state and national level. Many travel to compete in state and national contests. Also, students work on NOVA video projects, non-narrative videos, short stories, radio, and the in-house Archers' TV show.</p>
TV Media Production III	<p>Students shoot more sophisticated videos using professional gear such as DSLRs and Panasonic film cameras and gliders to gather footage to be edited in our high-powered computer lab.</p> <p>Students work on personal projects, demo reels, client and community projects so that they can be accepted to the college of their choice. Students become certified in Adobe After Effects which is the industry standard for motion graphics.</p> <p>Students produce the in-house Archers' TV show. They go out to shoot and edit engaging videos with a deadline and in this class, scholarships and internship opportunities become available.</p>

NEW/Additional DE Courses

Class	Prereqs and helpful information from the teacher
DE Music Appreciation	<p>Essential elements of music, rhythm, tempo, instruments, music history, music theory, very light lift, projects, silent film fest, how music impacts film.</p> <p>Explores the language of music through an introduction to basic elements, forms, styles across time.</p>

DE Statistics I/II	<p>6 college credits</p> <p>This class is good for intellectually curious students who enjoy doing independent research project (mostly in the 3rd quarter). There is ight coding but no coding experience needed. This is really math in the service of your interest/passion.</p> <p>We don't use a pencil and there's no hand computations done either. You don't need to be a math wiz to be successful, but you have to be a strong student. This class is good for students who are looking to go into research based fields</p>
DE Comparative Politics Social Studies Elective	<p>In new DE course, you'll learn concepts and methods of comparative politics. Includes empirical analyses of domestic governmental, political, and societal institutions and norms of countries around the world. The assignments in the course require college-level reading fluency and coherent communication through written reports.</p> <p>*Prerequisite(s): ENG 111</p>
DE Quantitative Analysis	<p>It's a 3 college credit course over one year. Students look at data in their lives and in the county (existing data). Students learn to understand math and data to solve contained problems (identify opportunities for improvement in your community, business).</p>
DE Calculus I/II	<p>College Level Course were students should be able to critically think and strong foundational knowledge Algebra 2 concepts including but not limited to factoring cubic and high order polynomials, trigonometry, absolute value equations and inequalitites, the ability to recognize conics by graphs and equations. Course is rigorous and do not have access to desmos. Very fast pased course and students will be covering differential and integral in one academic year.</p>