

## North Hunterdon/Voorhees Technology Education

There are a lot of exciting technology courses available to Freshmen at North and Voorhees High School. In order to graduate, you must take 5 credits of Practical Arts, which includes these Technology Education classes. These are all half-year classes (2.5 credits each).

***Intro to Robotics:*** In this class students get to build their own robots from scratch, using recycled materials and controller boards such as Arduino. Besides the fun hands on work, students get to start learning how to program with the very powerful C programming language.

***Robotics and Automation:*** A continuation of the Intro class, expect greater challenges from a mechanical engineering perspective and a deeper understanding of the code that makes it all work. This will include using bluetooth or wireless communications to build IoT (Internet of Things) devices.

***Engineering/CAD I & II:*** In Engineering/CAD you will work on applying the engineering design loop to create solutions to problems. This is a favorite class of many students! Typical projects include bridge building, rockets, concrete canoes, and trebuchets. These classes are pre-reqs for the *brand new Mechanical and Electrical Engineering classes.*

***Web Design and Animation I & II:*** In these fun hands on courses you will learn how to create working webpages and animations. Students will learn HTML, CSS, Javascript and other state of the art technologies. It is a great introduction to how the internet works, and will be beneficial to those going to college as well as starting a business.

***Graphic Communication Technology I & II:*** In this fun computer based class, students learn how to communicate graphically using Adobe Photoshop, Illustrator and other modern tools. Students will also get to explore free tools available outside of the tech classroom, like Canva. Projects include both print projects (invitations, posters) and digital products (social media graphics for facebook, instagram, etc.)

***Power Technology I & II (North only):*** In this hands-on class, students will use machining tools to create and develop functional engines, while learning how all types of power technologies work. Students will gain an understanding of how energy is captured and redirected into rotational mechanical energy.

***Drafting and Design:*** Drafting is learning the techniques to communicate your ideas visually by drawing. Students learn what are the fundamental aspects of a mechanical drawing - geometric constructs used in mechanical engineering. Then you will learn how to communicate your ideas in a Computer Aided Design tool like AutoCad Inventor. An example project in this class is designing MagLev cars, printing them with a 3D printer and then racing against your classmates.

***Architectural Drafting and Design I:*** This course follows **Drafting and Design**. In it you will apply your drafting and CAD skills to the Architectural field. Students learn about the various styles of architecture, types of homes, site and floor plans as well as what considerations you need to make when designing a house. The final project has students designing and building a model home with AutoCAD using balsa wood.

### ***Up Next!***

After taking some of the classes above, two levels of Mechanical Engineering, two levels of Electrical Engineering and one more level of Architectural Drafting and Design are offered.