**Automation & Robotics**

Students trace the history, development, and influence of automation and robotics as they learn about mechanical systems, energy transfer, machine automation, and computer control systems. Students use the VEX Robotics® platform to design, build, and program real-world objects such as traffic lights, toll booths, and robotic arms.

Below is the Course Outline with Lessons, Activities, and Projects

[**Lesson 2.1 What is Automation and Robotics? - Overview**](https://pltw.instructure.com/courses/210273/modules/items/7860354)

1. Lesson 2.1 What is Automation and Robotics? - Key Terms
2. [Activity 2.1.1a Sandwich Algorithm](https://pltw.instructure.com/courses/210273/modules/items/7860356)
3. [Activity 2.1.1b VEX Build](https://pltw.instructure.com/courses/210273/modules/items/7860357)
4. [Activity 2.1.2a Understanding Robots](https://pltw.instructure.com/courses/210273/modules/items/7860358)
5. [Activity 2.1.2 What Do We Use Robots For](https://pltw.instructure.com/courses/210273/modules/items/7860359)

[**Lesson 2.2 Mechanical Systems - Overview**](https://pltw.instructure.com/courses/210273/modules/items/7860361)

1. [Lesson 2.2 Mechanical Systems - Key Terms](https://pltw.instructure.com/courses/210273/modules/items/7860362)
2. [Building with VEX](https://pltw.instructure.com/courses/210273/modules/items/7860363)
3. [Activity 2.2.1 Observing Mechanisms](https://pltw.instructure.com/courses/210273/modules/items/7860364)
4. [Activity 2.2.2 Mechanical Gears](https://pltw.instructure.com/courses/210273/modules/items/7860365)
5. [Activity 2.2.2a Mechanical Gears Review](https://pltw.instructure.com/courses/210273/modules/items/7860366)
6. [Project 2.2.3 Windmill Construction](https://pltw.instructure.com/courses/210273/modules/items/7860367)
7. [Project 2.2.4 Pull Toy Construction](https://pltw.instructure.com/courses/210273/modules/items/7860368)
8. Project 2.2.5 Survival Challenge

[**Lesson 2.3 Automated Systems - Overview**](https://pltw.instructure.com/courses/210273/modules/items/7860371)

1. [Lesson 2.3 Automated Systems - Key Terms](https://pltw.instructure.com/courses/210273/modules/items/7860372)
2. [Activity 2.3.1 "Beef" up Your Technological Resources Understanding](https://pltw.instructure.com/courses/210273/modules/items/7860373)
3. [Activity 2.3.2 Robot Behaviors and Writing Pseudocode](https://pltw.instructure.com/courses/210273/modules/items/7860374)
4. [Activity 2.3.3 Using ROBOTC](https://pltw.instructure.com/courses/210273/modules/items/7860375)
5. [Project 2.3.4 Automation Through Programming](https://pltw.instructure.com/courses/210273/modules/items/7860376)
6. [Project 2.3.5 Simulated Factory Assembly Line](https://pltw.instructure.com/courses/210273/modules/items/7860377)

Grading Scale: JH HS

Participation 20% 10%

Classwork 35% 30%

Projects: 45% 40%

Exam 0% 20%

Each student will need a 1 subject wire bound notebook to keep notes, sketches, design briefs, and daily progress records.

Each Robot Kit costs about $1100.00. They will be treated with respect and care.

**Contact Information:**

Feel free to contact me at **romzekk@nhuron.org**or 874-4101 x 263.

Website: <http://northhuronteched.weebly.com/>

Thanks for your attention and time,

Karen Romzek

Date \_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_ Student’s Signature\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

I hereby give my consent to allow my son or daughter to operate all machines and equipment necessary in carrying out the requirements of the course in which he/she is enrolled.

Date \_\_\_\_\_-\_\_\_\_\_-\_\_\_\_\_\_ Parent’s Signature\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Parent Phone Number: (\_\_\_\_\_)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Parent E-mail: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_