Women and Technology and Trade STEM Kit Info Sheet

mohawk COLLEGE

Smart Watch Kit

Kit Description:

Use this kit to learn how to create and code your very own Smart Watch!

In this activity students will:
-Learn what the hardware components of a smart watch are and investigate how they work
-Learn how 3D printing works and use software to create their own watch case
-Write software to perform the basic watch functions on the Arduino IDE
-Learn how to solder circuits

Students will gain firsthand experience in STEM by designing, assembling, programming, and operating their own Smart Watch that can be experimented with beyond the kit for continuous learning and expansion!

Key Areas Covered:

Grade 10 Computer Technology, Grade 11 Computer Engineering Technology, Grade 11 Computer Technology, Grade 12 Computer Engineering Technology, and Grade 12 Computer Technology.
Cirriculum Touch points:
Compter hardware, warkstation setup, Eletcronic interfacing, Safely construct and test electronic circuits, software, and programming.

Material Required

Small SPDT Switch
TP4056 Charging Board
Waveshare 1.54inch E-Ink Raw Display Panel
Waveshare e-Paper ESP32 Driver Board
3.7V 600mah Lithium-ion Polymer Battery
Velcro Wrist Strap
Mini Micro Jst 2.0 Ph 2-Pin Connector Male Plug
Jumper Wires
Micro USB to USB Cable
3D Printer
Soldering Iron
Arduino IDE