

CST8227 Lab 01: Teensy Lab Kit

Lab Objectives:

1. **** Important ****: Pickup your lab kit, featuring the Teensy 4.0 microcontroller and various components, from the Connections bookstore, located on the Woodroffe campus.
 - a. You'll need to bring a photo ID – to identify who you are.
 - b. Show your timetable – to show you're enrolled in CST8227.

Detailed instructions regarding pickup are posted on Brightspace. Please read.

Required Equipment:

- Your laptop, as specified in BYOD
- **IMPORTANT**: you need to provide your own USB cable with 5-pin micro-B connector
 - the USB cable must be rated for charging (i.e. power) **AND** data transfer (!)

Part A: Protoboard Preparation and Layouts

Welcome to CST8227 – Interfacing!

Your lab kit for the course includes the following items:

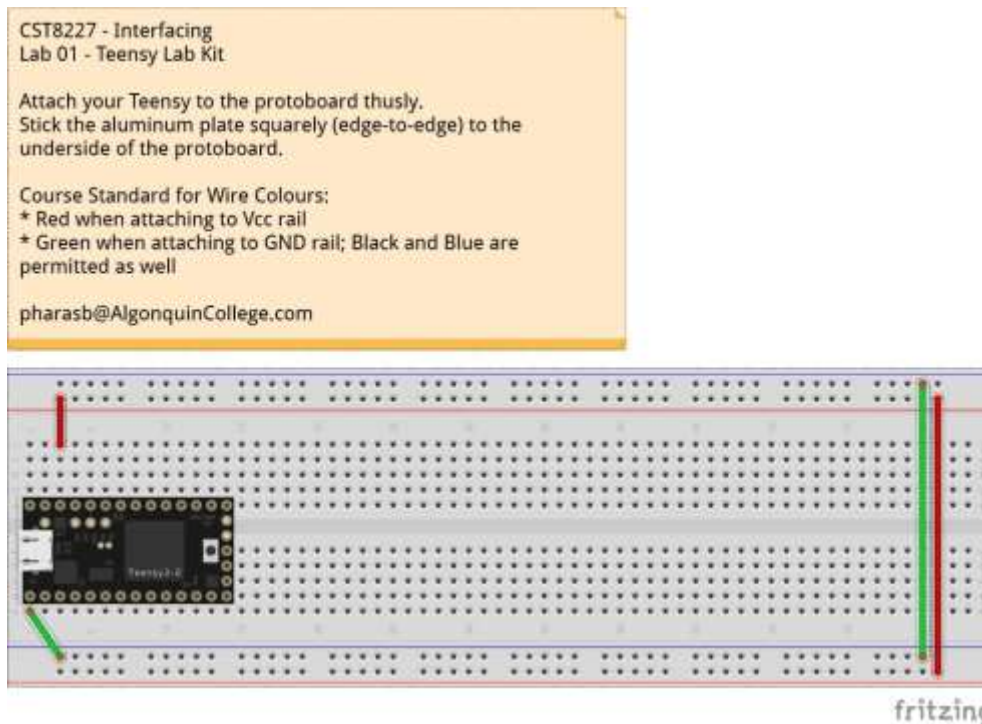
- 1 x Teensy 4.0, a 32-bit Arduino-compatible microcontroller
 - 1 x Teensy 4.0 Reference Card
 - 1 x Teensyduino Tutorials 1 to 4 Parts Kit
 - 1 x protoboard
 - 1 x wire set
 - 4 x switch, large (12mm)
 - 8 x red LEDs
 - 4 x green LEDs
 - 4 x yellow LEDs
 - 2 x shift registers (Texas Instruments)
 - 2 x 7 segment displays
 - 1 x Piezo buzzer
 - 1 x light-dependent resistor (LDR), otherwise known as a CdS (Cadmium-Sulfide) or a photoresistor
 - resistors:
 - 16 x 220-ohm resistors
 - 8 x 180-ohm resistors
1. Remove the protoboard from its packaging and dispose of unwanted packaging by either recycling or putting it into a trash can.

2. Remove the “sticky-tape” from the bottom of the protoboard and attach the conductive plate (aluminum).

Do a better job of *squaring* the conductive plate to the protoboard than what I did ☹



3. Attach your Teensy to the protoboard according to this schematic:



Deliverable:

Use your mobile device and take a “selfie” of you and your prized Teensy attached to the protoboard. If you are uncomfortable taking a self-photo, please substitute with your Algonquin College Student ID Card.

Upload your photo to Brightspace before the due date.

Postlab:

Congratulations on receiving *your* lab kit ---- it’s yours to keep as you’ve paid for it 😊

FAQ: I have a Teensy... that’s nice. What can I do with it?

Answer: The Teensy is a popular microcontroller and developers often post their projects to PJRC.com, home of the Teensy.

Enjoy!