

LIN155 & ETY155 CORE

Version 3

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COURSE INFORMATION

Course Outline:

[LIN155 Course Outline.](#) [ETY155 Course Outline.](#)

After clicking on a Course Outline link above, select the school as the "School of Electronics and Mechanical Engineering Technology" to see the full course outline for this semester.

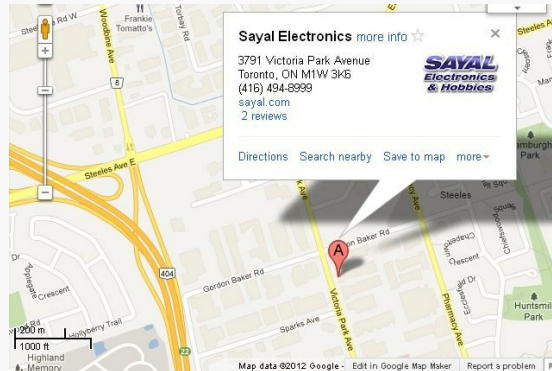
Textbook:

LIN155: "Electronics for Dummies, 3rd Ed." by Cathleen Shamieh. Published John Wiley & Sons Inc. Available through the Seneca Library on the shelf (NH campus, General Collection TK7819 .M38 2015) and also in ebook format with login ([1](#) or [2](#)).

ETY155: "Introduction to Electric Circuits, 10th Ed.) by Jackson, H.; Temple, D.; Kelly, B.; Craigs, K.; Fuentes, L. Available through the Seneca Library on the shelf (NH campus, General Collection TK454 .J28 2019, check if [in library](#)).

Where is Sayal Electronics?

Sayal Electronics is about 3 km North-East from Seneca Polytechnic, Newnham Campus. See image below for a map to their location. Click the image or [this link](#) to visit their website and find their hours of operation. Look for their Scarborough location, where all the LIN & ETY kits are available for purchase for Seneca students.



Lab Kit Contents:

Winter 2024: [LIN155 Lab Kit List](#). [ETY155 Lab Kit List](#).

These are the latest Lab Kit contents lists for LIN155 and ETY155. You can purchase all items in a pre-made package from Sayal Electronics. Be sure to attend your Lab 1 in both courses for instructions before going to the store. You will need to buy your own kit in Week 1 and bring it to your lab section every week, starting in Week 2.

Tips: Make plans to go to the store with a friend by the end of Week 1.

TOPIC 1: SAFETY TRAINING

- [Basic Electrical Safety.pdf](#)
- [Electrical Hazards - Lab Safety.pdf](#)
- [Occupational Health & Safety Act.pdf](#)
- [OHSA Guide.pdf](#)
- [Sample Safety Quiz Questions.pdf](#)

TOPIC 2: WHMIS

WHMIS is a comprehensive plan for providing information on the safe use of hazardous products used in Canadian workplaces ([CCOHS.ca](https://www.ccohs.ca)). "WHMIS 2015" incorporates global standards for hazard communication under GHS (Globally Harmonized System of Classification and Labelling of Chemicals), the details of which are discussed in our student training module.

- **How to access the [WHMIS Training Module](#) online.**

Quiz questions are provided in each of the 5 sections in the training module, and also in the final quiz at the end. Use these questions to help solidify your knowledge and understanding of the material.

Additional materials have been posted below.

- [Student WHMIS Training Module](#)
- WHMIS 2015 Guide PDFs: [MOL Guide.pdf](#), [Label Elements.pdf](#), [Fact Sheets.pdf](#)
- [Sample WHMIS Questions.pdf](#)
- [Sample WHMIS Pictograms.pdf](#)

For current LIN155 students:

- **Lab 2:** Make written notes based on this WHMIS training module. Completing the training module certificate is recommended. During Week 2 (Lab 2), you will be given a WHMIS Quiz, for marks, to be completed before the lab ends. You may use only your own written notes during the quiz.
- **Other Assessments:** WHMIS concepts will also be featured on **Term Test #2** and the **Final Exam**. Passing Term Test 2 is a requirement of the course.

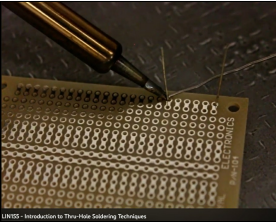
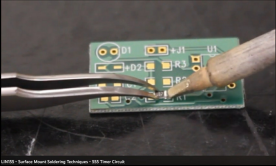


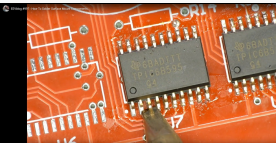
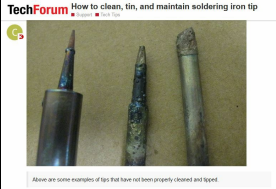
TOPIC 3: OSCILLOSCOPE & FUNCTION GENERATOR

- [Oscilloscope Exercises.pdf](#)
- [DSOX 2002A Scope Guide User.pdf](#)
- [Agilent Function Generator - How to Set High Z](#)
- [Keysight's Oscilloscope Lab Guide and Tutorials.pdf](#)
- Website: [Interactive Function Generator and Oscilloscope](#)
- Video: [Why is my Function Generator voltage doubled?](#)

The output voltage shown on the Oscilloscope might measure **double** the value that was set on the Function Generator... Find out why!

(This link shows you how to fix it on an Agilent 33210A, 33220A, or 33250A Function Generator.)

TOPIC 4: SOLDERING TECHNIQUES

	<p>(link needed)</p> <p>Thru-Hole Soldering Techniques</p> <p>SEMET</p>
	<p>(link needed)</p> <p>Surface-Mount Soldering Techniques</p> <p>SEMET</p>
	<p>https://learn.sparkfun.com/tutorials/how-to-solder-through-hole-soldering</p> <p>How to Solder: Thru-Hole Soldering</p> <p>SparkFun</p>
	<p>http://youtu.be/VxMV6wGS3NY</p> <p>How to Solder Properly: THT & SMD</p> <p>Great Scott</p>
	<p>https://www.youtubetrimmer.com/view/?v=hoLf8gvvXXU&start=596&end=742&loop=0</p> <p>How to Solder Surface Mount Components</p> <p>EEVblog</p>
	<p>https://forum.digikey.com/t/how-to-clean-tin-and-maintain-soldering-iron-tip/2006</p> <p>How to Clean, Tin, and Maintain Soldering Iron Tip</p> <p>DigiKey</p>

TOPIC 5: PCB DESIGN SOFTWARE

Mentor PADS	<ul style="list-style-type: none"> • PADS - Full Tutorial.pdf • PADS - Quick Demo.pdf
EAGLE	<ul style="list-style-type: none"> • EAGLE - Lab 8 Instructions.pdf

TOPIC 6: MS VISIO - FLOOR TEMPLATES

- [MS Visio - Floor Plan Templates.7z](#)

To get your lab room's floor plan:

Download the above .7z file, extract all the files, select the .vsd file that matches your room (**A4058, A4068, A4071, A4072, A4073**), rename the filename to include your own name, and then open it to start working on the lab procedures.

LIN155 - SAMPLE STUDY QUESTIONS

- [LIN155 - Sample Study Questions.pdf](#)

LIN155 - ADDITIONAL VIDEOS & WEBSITES

Resistors	<ul style="list-style-type: none"> • Video: Resistor Values and Taking Measurements
Breadboards	<ul style="list-style-type: none"> • Video: Introduction to Breadboard (p1) • Video: Introduction to Breadboard (p2) • Video: Ben Eater - Introduction to Breadboards
Tools	<ul style="list-style-type: none"> • Video: Basic Electronics Tools • Video: How to Use Each Tool
Equipment	<ul style="list-style-type: none"> • Video: How to Use the Oscilloscope
Soldering	<ul style="list-style-type: none"> • Video: Soldering - Right and Wrong Ways • Video: Ben Heck Show - Introduction to Soldering
Simulations in OrCAD	<ul style="list-style-type: none"> • Video: Capture - How to create a voltage divider circuit • Video: Capture - How to run a simulation on the previous circuit • Video: Capture - How to setup an RL circuit for simulation • Video: Capture - How to run a transient simulation (RLC circuit) • Video: PSpice - How to input code for simulation • Download: https://www.orcad.com/resources/download-orcad-lite
DigiKey EDA & Design Tools	<ul style="list-style-type: none"> • https://www.digikey.ca/en/resources/design-tools/design-tools

ETY155 - EXAMPLE LAB VIDEOS & WEBSITES

Additional online resources for ETY155 can be found on a [separate page](#).

ACADEMIC INTEGRITY

General Information	<ul style="list-style-type: none">• https://employees.senecapolytechnic.ca/spaces/197/academic-integrity/home
AI Policy @Seneca	<ul style="list-style-type: none">• https://www.senecapolytechnic.ca/about/policies/academic-integrity-policy.html
Related Videos	<ul style="list-style-type: none">• https://www.youtube.com/watch?v=NgwKx7ccTno• https://www.youtube.com/watch?v=dINjXB0OkIg

tags : ety155, lin155