

2024 Resources from Participants

Asma Arif	ICS3U Culminating Project	Create a text-based computer game.
Brendan O'Neil	This was the result of starting into PiPico from nothing to a 1st year putting into the classroom...	<p>The challenge of the concept was easy but having technology work in a limited time is always risky.</p> <p>From the CEMC at UofWaterloo & TopTechGuy.com (videos with incremental steps)... provided an incremental way as the teacher very quickly to create from nothing this project.</p> <p>Future goals of extending ideas are intended after the teacher become more familiar and comfortable.</p> <p>This CPT was done in a grade 10 class & was done in pairs to reduce first time challenges by group pair share learning.</p> <p>Search: TopTechGuy.com and type in Pico</p> <p>https://www.youtube.com/playlist?list=PLGs0VKk2DiYz8js1SJog21cDhkBqyAhC5</p> <p>-->lessons from start onwards...</p>
Catherine McCaffery	Assignment: Exploring Data Privacy Concerns	Getting students to recognize that blindly accepting the terms of use and privacy policies puts their personal information at risk. Included is an assignment with rubric along with an example privacy policy and terms of service agreement for a game app. Feel free to update the sample PP and TOS agreements to reflect a newer/popular app at the time for students with limited access to the Internet.
Danny Tsang	Checkers Assignment for senior Java project.	The starting code and the instructions that I used for my Ap Programming 12 students.
Elaine Armstrong	Introduction to sequential programming	The popcorn scramble can be used as a quick intro to sequential programming. We discuss how some steps must be in a particular order but others don't really matter (ie throwing out the garbage while the popcorn is popping vs after you have put the popcorn in a bowl). I am not the original creator but don't remember when/how it came into my possession.
Esteban Delossa	Scratch Rocket Animation Assignment	This could be used in TEJ3M or TEJ20 and TAS10.
Hanna Kim	Cybersecurity IDC20	Lessons and assignments

Helen Strelkovska	If and loops using Arduino	Handouts and a worksheet for the TEJ course. These materials introduce students to if statements and loops for the first time using Arduino.
Jeff Campbell	ICS4U methods and error handling	This is an assignment that I've used in ICS4U as a way to review writing methods and error handling, and as a way for students to practice writing to file. The assignment has students write a Mad-Lib style program that generates click-bait headlines. Each headline type is generated using its own unique method. Once all headlines are generated, the program writes the headlines to a file. Included on the document is the instructions for students, some sample program output, required components, and a rubric for teachers to use to mark. It takes a simple premise – generate random data and print it to file – and puts a fun, relatable spin on it for students
Jill Harris	Intro to AI	Complete unit of study.
Kiley McDaniel	ICS3C and ICS4C courses were combined and connected to an Introduction to Python Programming dual credit course at Durham College	My resource features the two major culminating task assignments (1 and 2) that were completed by the students in the dual credit course and laid the foundation for topics that would be covered in the final exam. I have included 2 student coding responses to the Assignment 2 challenge to give some idea of the student's response to the college-level programming task. This spring, I enrolled in an ethical hacking course at Durham College and I've included the pen testing lab (Lab #5) that we had to complete which showcases how cybersecurity can be taught using Virtual Box.
Kitty Wu	IDC20 - Hardware, Software & Innovation	Shopping guide for various industries. You and your partners will research and analyze hardware and software requirements for computers in different industries to make recommendations based on user needs and purposes.
Luke Sawczak	A CodePen of a flashcard tool that allows for creation of decks in as long as it takes to copy and paste CSV. I use it in every class to quickly drill concepts from the front	https://codepen.io/lukesawczak/full/XWqgorQ
Mark Bouwmeester	ICS4U Artificial Intelligence	The use of Artificial Intelligence has grown significantly over the past few years, but I wanted my students to gain an appreciation of the fact that the products of AI, amazing as some of them might be, are still the result of a computer algorithm. If the results of the algorithm mimic intelligence, that is

		<p>only because of the humans responsible for designing, implementing, and training it.</p> <p>To that end, in ICS 4U1, we undertook to write a simple program that will LEARN to play Tic-tac-toe. The algorithm is not supplied with any foreknowledge of the game and becomes an "intelligent" player through experience alone.</p> <p>Included is Java source code for our implementation of this reinforcement learning based AI, along with some class notes posted to my classroom website and a PowerPoint presentation used to introduce the project. (The Java source code uses JavaFX to implement a user interface. The Game class and AI class do not depend on JavaFX, and a different user interface - e.g. text based - could be added)</p>
Matthew Ierfino	IDC2O - Collision Detection	<p>I've attached a zip file containing a Processing sketch, and a PDF document for an intro to collision detection lesson for ICD2O. This is intended to follow a bouncing ball demo, to then be scaffolding for a catching game assignment. This lesson includes off-screen group discussions, and follows UDL principles by providing choice and level differentiation throughout the lesson. Running this lesson previously, students seemed to be especially engaged when they had a choice in how they complete this activity. Students work in groups to problem solve how to detect if a soccer ball following their cursor is within a soccer net, first on mini whiteboards, and then implement their solutions individually or in groups in Processing using the starter file.</p>
Michael Seto	Python Operations and Expressions - ID20	<p>You have been offered a job of working at an ice cream stand for the summer. Write a program in Python that takes a customer's order of an ice cream cone, and then calculates and prints out the cost.</p>
Monique Dubytz	Arduino and C++ unit.	<p>I am sharing my unit on Arduino and C++. There are 8 lessons (Power Point lessons), a final project and rubric.</p> <p>This is a unit introducing the structure of code in C++ using the Arduino IDE and it's micro-processor. Everything from basic circuits, variables, arrays, loops and sensors are presented. There is a series of mini formative tasks throughout the unit with a culminating task at the end. This unit is suited for the ICS 3C, 3U, 4C or 4U courses. The resource is in french.</p>
Meagan Furgal	ICS4U - tree data structures	<p>This lesson package for ICS4U provides a lesson plan for teaching tree data structures and the following supplementary materials:</p> <ul style="list-style-type: none"> • Diagnostic assessment exit ticket • Lesson plan for live coding and collaborative problem solving • 1-page information sheet

		<ul style="list-style-type: none"> • Assignment and solutions • Quiz and solutions
Muhammad Khurram	Objects in JavaScript	PowerPoint
Paul Guse	Rust - ICS4U	This is an introduction to the Rust programming language including notes, exercises, and some assessments.
Paul King	Input and Output: Working With Math Formulas	Python and Java (The files are two web pages that appeared on D2L along with the CSS file they use.)
Peter Conlon	Greenfoot - Two Animals Assignment - Lists of Objects	<p>This is intended as an assignment for ICS4U1 using a java environment called Greenfoot. Students should have learned about object-oriented programming by the time they attempt this assignment.</p> <p>Before attempting this assignment, students will need an understanding of lists of objects. They need to be comfortable with the enhanced for loop. Regarding Greenfoot specifically they need a good grasp of <code>getOneIntersectingObject()</code>. Make sure there is at least one food object in the World. Otherwise, you will get a null pointer exception.</p> <p>They will probably need help coding the <code>getDistance()</code> method. The Math class has a Pythagorean method called <code>Math.hypot()</code> which would be very helpful for this.</p>
Raj Nachimuthu	an end of unit assignment for TEJ4M, TEN4M courses.	<p>Students are expected to apply the concepts they learned; viz, IP addressing, subnetting, subnet mask and CIDR notation, and types of IP addresses etc.</p> <p>Communication is an essential component of this evaluation.</p>
Ram Etwaroo	Teaching: Java or Python	This resource is a presentation that I have used in my ICS3U or ICS4U courses. I have titled it "Teaching: Java or Python" or could also be called "A comparison of Java and Python" as I have used it to highlight some of the differences between Java and Python. It could also be used as "An overview of Java".
Richard VanDeWiele	Culminating activity for the ICS2O	Students design a computer program using elements of the SDLC.
Sandhya Kemkar	TEJ2O Robotics unit summative assignment TEJ3M Lab Assessment	TEJ2O -Students will work in their groups to complete the summative for the robotics unit. Research in their groups to build a prototype /working model of a robot using resources and materials available such as sensors,servo motors and attachments.Students can also use arduino boards and breadboards to build their model.

		TEJ3M - Lab Assignment
Tony Theodoropoulos	Flowchart Assignment	A flowchart assignment I use in my 3U class.