# Lab 1: Vector Addition

Due Date: …

## 1. Objective

The purpose of this lab is to get you familiar with using the CUDA API by implementing a simple vector addition kernel and its associated setup code.

## 2. Procedure

**Step 1:** Update your local repository to obtain the code needed for the assignment.

cd <labs-directory>

hg pull

hg update

**Step 2:** Edit the file lab1/main.cu to implement the following where indicated:

1. Allocate device memory
2. Copy host memory to device
3. Initialize thread block and kernel grid dimensions and invoke CUDA kernel
4. Copy results from device to host
5. Free device memory

**Step 3:** Edit the file lab1/kernel.cu to implement the vector addition kernel code.

**Step 4:** Compile and test your code.

cd lab1

make

./vecadd # Uses the default vector size

./vecadd <m> # Uses vectors of size m

**Step 5:** Submit your assignment. You only need to submit the following files:

* main.cu
* kernel.cu

Compress the files and name them after your student id like so:

tar -cf id.tar main.cu kernel.cu

Send the compressed folder by email to <TA’s email address> with “ECE408 Lab 1” in the subject line. Submissions with incorrect subject lines may not be processed.

**3. Grading:**

Due to its simplicity, this lab will be graded on a pass/fail basis.

*Note: This is a simple but essential exercise. Please write out the code and do not copy it from other examples or lecture slides. That process is most important.*