Department of Electrical and Computer Engineering

ECE 5710/6710 Lab 1

Title: Installing the IDE and SDK

Equipment: EFM32GG-STK3700 Starter Kit.
Your laptop computer.

Objective: The student should successfully download and install the Simplicity Studio integrated development environment (IDE) and software development kit (SDK) necessary to complete the lab exercises for the rest of the semester.

Preparation: This laboratory exercise may be completed on your own time or during the lab period. If you complete the exercise on your own time, you need only show up to pass it off.

Write a title and short description in your lab book that indicates to you that the notes that follow pertain to (a) installing the Simplicity Studio IDE, (b) installing the SDK for the EFM32GG and (c) running two example programs.

Lab Work: Go to the Silicon Labs Simplicity Studio website:

www.silabs.com/products/development-tools/software/simplicity-studio

Follow the instructions to download and install Simplicity Studio on your laptop. (You may need to create an account with Silicon Labs so they can collect some demographic data.) New versions of this software are released from time to time, and the procedure for getting up and running changes with each version. At the time these lab exercises were last updated, the latest Simplicity Studio version was v5, but things may have changed since then. Consequently, it is not guaranteed that all the exercises will work as written, but as senior and graduate students, it is expected that you will be able to work around any difficulties you encounter.

For now, your goal is to install the SDK for the EMF33GG (Giant Gecko), build two example programs provided with the kit that blink the LED, and run them (one at a time) on your evaluation board. Keep notes in your lab book to document your steps. This will be very useful if you have to repeat this procedure later in the semester because, say, your laptop crashes.

You may find it easier to install the SDK if your EMF33GG is connected so the Simplicity Studio can find and install the software packages you need.

For the current version of Simplicity Studio, you would start by selecting “Create New Project” from the “Launcher” and by finding the project “Platform – Blink PWM”. After creating the project, the IDE perspective should come up and you should be able to build the project by clicking on the hammer icon and debug the project by clicking on the green bug (Debug) icon. Initially, the debugger pauses program execution so you will have to click the resume icon (yellow rectangle plus green triangle) to start the program.

Once this program is working (LED0 blinks), demonstrate it to your lab instructor.

Now, repeat the process for the example project that blinks the LED using the FreeRTOS kernel (Currently named “Platform – Blink Kernel FreeRTOS”).

Make sure each page of your lab book is initialled and dated. No conclusion is necessary.

Points will be assigned according to the rubric below:

Criterion	Points
Lab book is properly bound and kept in ink	1
Lab bool contains a title and short description	1
Each page is initialed and dated	1
There are no obliterations	1
Work is legible and large empty areas are crossed out	1
Both programs work (LED blinks)	5

Late work is penalized 2 points (20%).