**CS-418 L01 – Operating Systems**

**Homework 1 – LKM**

**Points: 75**

**Building a Linux Kernel Module**

Please read this Wikipedia page that describes Linux Kernel Modules:

<https://en.wikipedia.org/wiki/Loadable_kernel_module>.

## **Rules**

*Don't panic!*

***Requirement***

*Build hello\_lkm module and display its debug output.*

***Deliverable***

*Turn in the debug output by capturing it and saving the capture in single file. Submit this file.*

***Procedure***

/\* Get the **Hw 1 files** \*/

# /\* At this point your Linux environment should be set up. Download the hello\_lkm.c and Makefile and place them in a directory for your Hw 1 work. \*/

$ cd to the Hw 1 directory

/\* You should see something like this \*/

$ ls

hello\_lkm.c Makefile

$ make

/\* You should see something like this \*/

$ ls

hello\_lkm.c hello\_lkm.mod.c hello\_lkm.o modules.order hello\_lkm.ko hello\_lkm.mod.o Makefile Module.symvers

/\* Open at least two terminals, one for looking at the debug output and the other for the loading/unloading module \*/

/\* Terminal #1 - Debug Output \*/

$ tail -f /var/log/syslog | grep cs418

/\* Terminal #2 - Load/Unload Module; note the debug statements in Terminal #1. Copy entire output for submission \*/

/\* Issue these two sudo commands \*/

$ sudo insmod hello\_lkm.ko

$ sudo rmmod hello\_lkm.ko

/\* See ***Deliverables*** above for what to submit for this assignment \*/