

ENGR-355  
Project Write-up Instructions etc.

As part of the project you are expected to submit a project write-up which should contain the following:

- A page with one paragraph, basically an abstract, that defines what you set out to do, a bit about how you went about the task. And a results statement (how much was completed, did it work/or not and why).
- A description of the device that includes specifications, functional and quantitative.
- User guide, concise and to the point written to a peer
- Hardware design notes. For example, calculations for pull-up resistors and power consumption. You might show parts of a schematic to discuss how it works but the complete schematic typically goes in the appendix. Hardware design notes can be neatly hand written.
- Software design. Program design documentation can be a combination of narrative, outline, block diagram, state diagram, flow chart, pseudocode, etc. The goal is to clearly layout the logic and function of the program, identify modules or functions that are needed, data to be passed around or stored, how interrupts will be handled and what they do, etc. Pictures/diagrams are worth a lot.
- Screen shot of the build output window after the build (compile and link) of your most advanced project version. (see example on the next page)
- Comments or discussion about results. What worked, what didn't. How much did you complete.
- Appendix
  - schematic(s)
  - hardcopy of source files you created .

Typically the report is submitted on paper in a cheap binder and does not have to be printed from one file, i.e. a mix of hand-written, typed, or program output pages is acceptable. However, under current conditions electronic submission is an adequate option. If electronic, submit in pdf format to D2L.

**Submit source** (.c and .h) files to D2L drop box.

A final note about the project. The project is considered individual. Any code used that comes from someone else must be credited in the source code. Just copying code done by others doesn't give credit toward your project.

Example listing in the Build Output window of Keil uVision ver 5 program. You may need to expand the lower window of uVision to get all the output from a build:

```
Build Output
*** Using Compiler 'V5.06 update 5 (build 528)', folder: 'C:\Keil_v5\ARM\ARMCC\Bin'
Build target 'Target 1'
compiling flashled2.c...
compiling LED_FRDM-KL25Z.c...
assembling startup_MKL25Z4.s...
compiling system_MKL25Z4.c...
linking...
Program Size: Code=624 RO-data=416 RW-data=0 ZI-data=352
".\Objects\flashled2.axf" - 0 Error(s), 0 Warning(s).
Build Time Elapsed: 00:00:03
```