

## CSIS 2810 Group Project, Update II

Original Scope Evaluation in Black. 02/09/2020

See updates in red. 11/06/2020

See updates in green. 04/01/2020

### Project title/name

CNC Machine

We've decided to stick with the CNC machine.

### What was the inspiration for the project

With the CNC Machine we are hoping to push our boundaries and try for a large scale project with a custom-made CNC Machine. One of our groupmates is hoping to use this machine we build for later use with his crafting hobbies. Text regarding the laser gun has been removed.

### Task(s) to be preformed

CNC Machine

TASK	Percent Complete	Notes
Creating a wiring Diagram of CNC Machine.	95% 95%	Complete. Pending edits due to potential additional components (limit switches, other sensors). Still lacking information about limit switches. This should take 10 minutes.
Ordering components and then assembling.	75% 95%	Just waiting on powder coated CNC frame to arrive from shop. Frame assembled. Waiting on limit switches to be secured into the frame.
Software design.	10% 40%	Figured out how to use basic tools from Stepper motor library. Waiting on frame to arrive for further design. We are able to control both motors simultaneously, homing function, speed, direction. Just need to program letters into sketch.
Programming and testing the software with the CNC Machine.	- 50%	Not started. See software design section.

Text regarding the laser gun has been removed.

### List # and type of Microprocessors to be used

#### CNC Machine

- 1 Arduino processor

Text regarding the laser gun has been removed.

### List additional equipment needed

#### CNC Machine

Item	Quantity
Arduino processor	1x
1000mm Linear Rails	4x
600mm Linear Rails	2x
Stepper Motor Driver	3x
Stepper Motor Mounts	3x
Pillow Block Bearings	6x
Anti-Backlash lead nut	3x
Acme Scr.; 1/2"-10 RH SS	3x
Thread Clamps	3x
Side-Clamp couplers	3x
9000mm of steel rectangular tubing	n/a
Various nuts/bolts/screws	100~
Limit switches?	2
7V power source	1

### Timeline with team member assignments

#### Design (Dates reflect due date, not start date)

1. Drop-dead date for CNC Project (February 26<sup>th</sup>) – **DONE**.
2. Concept Designs for system and design decisions (February 4<sup>th</sup>) – **DONE**.
3. Materials arrive (March 4<sup>th</sup>) – **DONE**.
4. Build System (wiring, 3d printing etc), (March 11<sup>th</sup>) – **75% 95%**
5. Tweak System (March 18<sup>th</sup>) – **0% 75%**

#### Software

1. Software design and planning (~~March 11<sup>th</sup>~~ April 15<sup>th</sup>) – **10% 75%**

2. Coding done (~~March 25<sup>th</sup>~~ April 20<sup>th</sup>) – 0% 55%
3. Testing, tweaks (~~April 1<sup>st</sup>~~ April 25<sup>th</sup>) – 0% 0%