**ECEN 361—Embedded Systems**

**Project Definition**

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| **Your Name** | Copeland Carter |
| **Unique Team Name** |  |

1. Describe the type of project you will be creating.

We will be building a self-balancing robot.

1. Describe key elements you’ll need to learn to accomplish your project.

At the minimum, it must be able to balance itself from a standing start.

Key features we would like to add, are getting up to a standing position by itself, and being able to turn via remote control.

1. Make a list of specific requirements (that is, functionality) that will be implemented in your software (add more rows if needed).

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| **Your Project Requirements** |
| Gyroscope must talk to the computer properly |
| Computer must talk to the wheels properly |
| If doing remote control, the remote must talk to the computer, which must properly interpret the signals |
| If self-standing, then we’ll need some sort of function that can do that. |
| If turning, we’ll have to figure out how to turn without falling over. |
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1. Provide a high-level schedule for your project, including researching, implementing features, and testing. Researching includes anything that you do not currently know how to do.

Research:

What kind of motors we’ll need in order to self-stand

How to stand up from a sideways start

How to implement remote control (and the best way to do that)

The feedback loop between the motors and the gyroscope

How to turn without falling over

Features to implement in order:

1. Building the robot frame

1. Getting the computer talking

2. Getting the gyroscope talking

2. Getting the wheels working

3. Other stuff

Testing:

Make sure it can stand

make sure it can stay standing

make sure it can stand up

make sure it can move on command

make sure it can turn

make sure it is remote controlled

make sure it is cute

1. The team leader is responsible for scheduling and conducting all team meetings. Who will be the team leader for your project?

I (Copeland Carter) am.