**MECH 1010- Modes and Mechanisms**

Major Assignment instruction and criteria:

The main focus of the module is to provide students with an understanding of mechanisms and modes of transportation and accomplishing work through a variety of mechanical means. The major assignment for this module will consist of designing and building a type of self-propelled vehicle. Dimensions and design style will be entirely the responsibility of the student; however, the teacher will certainly be available to consult regarding student designs and theory.

The project parameters:

1. Decide what type of power your vehicle will utilize. i.e. air, electric, mechanical, gasoline… these are a few examples you may choose to use.
2. Design/build a vehicle that will propel itself over a measured distance that is not less than ten feet. Your vehicle may cover this distance on land, through the air, or even in water if so chose.
3. Your grade will be based on several factors that you must consider while planning your design:
4. Efficient use of a power source of some type.
5. Design and engineering of a successful prototype- answer the question: Will this machine travel over the required distance unaided? If it will GREAT! If not… back to the drawing board.
6. Your design process will include a portion of reflection: What worked? What didn’t work? How could you improve your project?

Why did you choose the power source that you did? What components of the theory of the course helped you make decisions regarding your project? Why did you use the materials that you did?

1. You will need to DRAW a representation of your vehicle prior to the construction/testing/flight phase. You will present your design process prior to testing. Maximum 20 minutes- minimum 5 minutes.

I strongly recommend that students do an internet search of mini-self-propelled vehicles to help in the design process and get excellent ideas in the early stages of development.

Marking Criteria:

80-100 %

The project meets ALL requirements of the assignment in theory and practical application.

80-70%

The project meets MOST of the requirement of the assignment in theory and practical application.

60-70%

The project meets SOME of the requirements of the assignment in theory and practice.

50-60%

The project meets the BASIC requirements of the assignment in theory and practice.

40-50%

The project meets few of the requirements of the assignment in theory or practice… and does not meet minimum physical requirement upon testing.

0-40%

The project meets NONE of the requirements of the assignment in theory or practice.

Due Date Oct 15/2015