

USM Mechanical Engineering

EMD332 Design 3

Prof. Horizon Gitano

Spring 2009

Syllabus

Rev. 1

www.skyshorz.com/university/resource.php

EMD332

DESIGN 3

2 Credits

Instructor: Professor Horizon Gitano

Objectives:

The course provides a chance for students to apply the various design tools in the development of a competitive consumer product. Emphasis will be on competitive analysis as well as design and fabrication. The students are to gather as much information about their products market, requirements, and existing competing products *first* to focus their design efforts on “adding value” rather than “reinventing the wheel”.

Given the limited time students are instructed to use as many “off the shelf” components as possible, and again focus their design efforts on their value added (ie. do not spend a lot of effort making some component that can simply be bought, and is already engineered to perfection, instead focus on fabrication of the “missing link” that makes all the components work together well).

Prerequisites: Design 1, 2

Grading (number):	% of final grade
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Group Reports (2)	60%
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Presentations (2)	40%
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(Note: 40% of the overall grade will come from your co-lecturers, as they will also grade your reports and presentations)

Projects for 2009: “Green Energy”:

Hand Generator

Inductive Power Takeoff

Nano-Hydro – Fan type

Nano-Hydro – Water Wheel type

Auto-off outlet (timed)

Remote Switch Mechanical Overlay

“Infinite Life” Bike Headlamp

Student’s Choice Project (within the area of “Green Energy” usage or generation)

Design 3

Schedule: (Note – The dates are subject to change.)

Percentage	Aspect	
15%	Introduction	Is it clear, accurate, sufficient and understandable? Is there a problem statement? Do they say what the group will be doing?
20%	Individual	What did THIS individual contribute? Can I tell?
15%	Progress to date	Has the done to date sufficient? Are they on track? Is the work quality work, or just fluff?
15%	Calculations	Correct Application of Analytical Techniques? Are there math/analytical errors?
10%	Time Line	Accuracy, timeliness.
10%	Goals	Is it clear what needs to be done, and how it will be done?
15%	Conclusions	Are they really understanding the problem, and creating a useful solution? Do they know? How have they measured their progress?