

August 31, 2011

Everyone,

Just three items this week:

New Alternative Energy and Sustainable Systems Technology Degree

Enrollment has now hit **55** in this new curriculum! Last count we were at **46** declared majors in Toledo, **9** in Findlay, so that it a very good start for the new program.

Some photos of one the classes started so far are shown below. This is the **ALT-120, Solar Thermal Power**, class and Leonard Michaels teaches it. Students are beginning assembly of the solar hot water heater:





More pictures of other labs as things develop.

University of Michigan Solar Car Display

Last Thursday the 25th, part of the U of M Solar Car Team displayed their 2009 car outside in the turnaround circle by the ET building for the public to see. Later the team's director gave a presentation of the car's development in ET-109.

We had about 60 attend throughout the time allotted from 3 pm to 8 pm, with food catered as well.

Some photos I took are shown below. (I had a Wind Power course to teach from 5-9 pm, so I missed the presentation, but perhaps Brad Meyer has some photos of that.)

As I understand it, Randy Wharton gave a short PPT talk on our own Alternative Energy and Sustainable Systems Technology degree, and then Rachel from U of M talked about the car's development with questions afterward.



This is the 2009 solar car (worth about **\$500,000!**) with **1600** watts of solar cells on the upper surface with a conversion rate of **29%!!** These are the same cells used on the International Space Station PV arrays for electrical power. These 1600 watts of power alone cost about **\$48,000!** Notice the very narrow profile with a tripod set of tires with the aerodynamic shrouds that protect them.

The vehicle is street legal and can reach speeds up to **105 mph!** Only trained drivers are allowed to race the vehicle on regular highways with conventional speed limits and traffic. Front and rear pace cars both protect and are available to the car in case any problems develop. The team is finishing work on the 2011 solar car in preparation for a race in Australia. A new car is developed and built every two years by a team of about 100 students.



A side view of the U of M 2009 solar car. Larger and beefier clamping brakes (like used on bike tires) comprise the braking system.



Part of the U of M solar car team with the Project Director, Rachel, on the right behind the canopy.



The canopy where the drivers (according to Rachel) get “sealed” in up to 6 hours for a race. . . and come out completely drenched in sweat. (No A/C, but a little airflow and 2 liters of water for cooling!) The cockpit temperature averages 30 degrees hotter than outside ambient!



The AE degree “green” room also being shown off with the U of M solar car.



View of the "green" room.



Interim Co-Dean Randy Wharton, President Larry McDougle, CFO John Satkowski, and VP Brian Paskvan survey the green room.

34 kW Photovoltaic Solar Array - Toledo Campus

This array is continuing to perform *astorishingly* well and we continue to feed power to the ET building!

Next week I should have the August production figures and it should be very good.

Regarding the installation of the revenue hard meter to measure generated kWh's from the array, a third meter installed still is not reading correctly, so I have decided to instruct the contractor to go to a different manufacturer for a new meter.

We will be getting a meter similar to the one that measures the output from the 50 kW Entegrity turbine. That hopefully will solve our problems so we can get on with the Ohio PUCO and GATS registration and certification processes, get approved, and then start selling our SRECS in the green tag market!

More news as it develops!

Any questions, comments, or clarifications, call or email.

Thanks,

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