



UNC CHARLOTTE

The WILLIAM STATES LEE COLLEGE of ENGINEERING

# Senior Design Newsletter

Vol. 5, No. 3, October 2011



2010 December Expo

## CALL for Spring 2012 Projects

Project Descriptions for Spring 2012 (January Start) are due November 1<sup>st</sup>. The kickoff breakfast is planned for Friday January 27<sup>th</sup>. Forms and instructions are on our website at:

[www.srdesign.uncc.edu/company-information.html](http://www.srdesign.uncc.edu/company-information.html)

## 2011 December 9 EXPO to Showcase 29 projects:

These projects will demonstrate their completed designs while the 56 Fall projects will defend posters of their conceptual designs.

2011 SP Projects	
Project name	Company
Allograft Storage System	Carolinas Medical Center
Vault Water Powered Generator	Char-Meck Utilities
Cascade Water Powered Generator	Char-Meck Utilities
Ice Cream Cabinet Development	Halprin Dev.
CO Exhaust Test Tool	Husqvarna
Handheld Starter Tester	Husqvarna
Analysis and Design of Convection Oven	ITW
Virtual Reality Buck	John Deere



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**2011 SP Projects**

<b>Project name</b>	<b>Company</b>
NASA Virtual Presence	NASA
RRP Bedding Machine	Randall Race parts
Chemical Wear of Diamond Tools	UNC Charlotte
Measurement of Zeta Potential of Bioactive Ceramics	UNC Charlotte
Music Synthesizer	UNC Charlotte
Coating Bioactive Ceramics	UNC Charlotte
Image Analysis For Fault Detection	UNC Charlotte
VSM Head Development	UNC Charlotte
Urban VAWT	UNC Charlotte
FSAE Suspension Steering	UNC Charlotte
Liburdi Test Fixture	UNC Charlotte
Robotic Fish Sniffer	UNC Charlotte
Renewable and Modular Micro-Source for Smart Grid Applications	UNC Charlotte
Vapor Driven Turbine II	UNC Charlotte
Vortex Grinding	UNC Charlotte
Masonry Air Filter	UNC Charlotte
Personal Hovercraft	UNC Charlotte
BAJA Chassis	UNCC Motorsports
Dyno Improvement	UNCC Motorsports
BMW M42 Turbo	UNCC Motorsports
FSAE Engine Supercharger	UNCC Motorsports

## 2011 Schedule of Events

Here is the schedule of events for the 2011-2012 school year. Be sure to put the Expos on your calendar, as they promise to be the biggest yet!

- October 27-28, November 3-4, Conceptual Design Review dates for fall 2011 projects
- December 9, FALL EXPO, Student Activity Center-Arena, 11am- 2pm OPEN TO PUBLIC
- January 27, Spring Kickoff Breakfast for Invited Sponsors, Mentors and Students
- February 23-24 Project Design Review dates for Fall 2011 projects
- March 16, 23 Conceptual Design Review dates for Spring 2012 projects
- May 4, SPRING EXPO, Student Activity Center-Arena, 11am-2pm OPEN TO PUBLIC



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## Conceptual Design Review (CDR) Schedule for Oct 27- Nov 4

Below is the schedule for CDRs for the Fall 2011 Projects. Open to all.

Please contact Bill Heybruck if you are attending so a parking pass can be made available for you.

Project name	Company	CDR Date	CDR Time	CDR Room
Beach Wheelchair	Smith Setzer and Sons.	28-Oct	8:00	Smith 217
Lunabotics Competition	NASA/UNC Charlotte	28-Oct	8:25	Smith 217
Hydraulic UTM Upgrade	UNC Charlotte	28-Oct	8:50	Smith 217
Improving Clamping Efficiency of a OHBC	Irwin Tools	28-Oct	9:15	Smith 217
Self Burying Asteroid Anchor	NASA	28-Oct	10:05	Smith 217
AFOSR Challenge-Climbing Assist Team A	US Air Force	28-Oct	10:30	Smith 217
Improving Electrical Distribution System (EDS) in Nuclear Power Plant Utilizing ETAP - Post Fukushima Study	AREVA	28-Oct	8:00	Woodward 244
Grid-Connected Renewable and Modular Micro-Source for Smart Grid Applications	Duke Energy	28-Oct	8:25	Woodward 244
Predictive Technologies and Service Life of Electronic Components	Duke Energy	28-Oct	9:15	Woodward 244
Pet Locator	TVL International	28-Oct	9:40	Woodward 244
Propane Tank Weight Monitoring Scale	TVL International	28-Oct	10:05	Woodward 244
Video Inspection System for Bonded Seals	Sabo USA	28-Oct	8:00	Smith 219
VFD driven variable hydraulic pump performance testing	Livingston & Haven	28-Oct	8:25	Smith 219
Pedestrian Safety Alert System 2	Bosch Engineering	28-Oct	9:15	Smith 219
Pedestrian Safety Alert System 1	Bosch Engineering	28-Oct	9:40	Smith 219



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Plastic Bottle Recycler 1	CGI Initiative	28-Oct	8:00	Cameron 213
Plastic Bottle Recycler 2	CGI Initiative	28-Oct	8:25	Cameron 213
Neural Network Algorithm Development and Test	Pavco Inc.	28-Oct	8:50	Cameron 213
Ballast Loader for Chassis Test	Freightliner Custom Chassis	28-Oct	8:00	Grigg 131
Biomass Gasification	UNC Charlotte	28-Oct	8:25	Grigg 131
BAJA Gearbox	UNC Charlotte	28-Oct	10:05	Grigg 131
BAJA Overall	UNC Charlotte	28-Oct	9:15	Grigg 131
FSAE Chassis	UNC Charlotte	28-Oct	9:40	Grigg 131
FSAE Engine	UNC Charlotte	28-Oct	8:50	Grigg 131
Auto Lube for Conveyor System	ICB Greenline	28-Oct	8:00	Duke 276
Plating Bath Sensor Development	Pavco Inc	28-Oct	8:25	Duke 276
FAS Assembly Machine	Preformed Line Products	28-Oct	8:50	Duke 276
Feedwater Heater Rigging and Removal	Shaw Group	28-Oct	9:15	Duke 276
Turbine cover Fixture	Southern Company	28-Oct	9:40	Duke 276
NASA Student Launch	NASA	28-Oct	10:05	Duke 276
Multiple Axis Cartesian Robot	Schaeffler Group	28-Oct	8:25	Grigg 132
Telemetric Transmission Bearing	Schaeffler Group	28-Oct	8:50	Grigg 132
Winding Drum Handler	Siemens	28-Oct	9:15	Grigg 132
FSAE Drivetrain	UNC Charlotte	28-Oct	9:40	Grigg 132
Box Handler for Manufacturing Line	US Leisure	28-Oct	10:05	Grigg 132
Prognostics and Remaining Life Estimation for Switch-Mode Power Converters	NASA	28-Oct	8:00	Woodward 106



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IEEE SoutheastCon 2012 Hardware competition team1	NASA/IEEE	28-Oct	8:25	Woodward 106
Electromagnetic Propulsion	UNC Charlotte	28-Oct	8:50	Woodward 106
Medical Remote Monitoring System	UNC Charlotte	28-Oct	9:15	Woodward 106
Negative Capacitance/Inductance Integrated Circuit	UNC Charlotte	28-Oct	9:40	Woodward 106
Pipe-Traversing Robot	UNC Charlotte	28-Oct	10:05	Woodward 106
Energy Education Project for High Schools	AREVA	4-Nov	8:00	Smith 347
Nanofluids Flow and Heat Transfer	ASHRAE	4-Nov	8:25	Smith 347
Motor Test Fixture with variable shaft loads	Baldor Electric	4-Nov	8:50	Smith 347
Cooling Water Intake Structure Modification	Duke Energy	4-Nov	9:15	Smith 347
Tidal Power Generator II	Shaw Group	4-Nov	9:40	Smith 347
Working Model of Gen III Nuclear Plant	Westinghouse	4-Nov	10:05	Smith 347
Masonry Air Filter	UNC Charlotte	EARLY		
Assembly Line Automation	Maclean Power Systems	4-Nov	8:00	Duke 324
Electron Beam Induced Deposition in SEM: Setup and Test	UNC Charlotte	4-Nov	8:25	Duke 324
Vortex Grinding	METSO Power	4-Nov	8:50	Duke 324
Prognostics of Switch Mode Power	UNC Charlotte	4-Nov	8:00	Woodward 106
Solar Traffic Light	UNC Charlotte	4-Nov	8:25	Woodward 106
Maximizing Efficiency of Solar Arrays via Dynamic Control of Panel Interconnects	UNC Charlotte	4-Nov	8:50	Woodward 106
Water Intrusion Prevention	Duke Energy	4-Nov	9:15	Woodward 106

**For more information or questions**



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Visit: [www.srdesign.uncc.edu](http://www.srdesign.uncc.edu) or contact Bill Heybruck at 704-687-2934 or [wfheybru@uncc.edu](mailto:wfheybru@uncc.edu).

*Please REPLY with "REMOVE" if you do not want to receive future issues.*