

COLLEGE OF
ENGINEERING



Senior Design Day
April 24, 2015
UNT Discovery Park



UNT College of Engineering Senior Design Day 2015

Senior Design projects by department

Computer Science and Engineering

- Team JAWS Sponsor: Jim Buchanan
- Cobra Alpha 5 Sponsor: Kris Chesky
- Team Royal Sponsor: Thomas Parsons, Ph.D.
- Division by Zero Sponsor: Mitchell Altimus
- Firecode Sponsor: Dr. Krishna Kavi

Construction Engineering Technology

- Grey Matter Construction Sponsor: UNT Systems
- RAX Construction Sponsor: KWA Construction
- Mean Green Bridge & Road Sponsor: Aaron Berry with Mario Sinacola & Sons
- Lonestar Construction Sponsor: TX Morrow Construction, Inc.

Electrical Engineering

- Wi-Fi Access Point Communication System Sponsor: Dr. Kamesh Namuduri
- VECTOR Sponsor: Dr. Xinrong Li
- Power Management System for Autonomous Sustainable Brackish Desalination System: Design of Hybrid Maximum Power Point Tracking Controller Sponsor: Dr. Acevedo
- Air Shield Sponsor: Dr. Kamesh Namuduri
- The Librarian Sponsor: Dr. Kamesh Namuduri
- Life Protection Car Sponsor: Dr. Hyoungsoo Kim
- Esoteric Sponsor: Dr. Parthasarathy Guturu
- IlluminUNTis Sponsor: Dr. Kamesh Namuduri
- RF Front end Sub-System for LET Signal Sponsor: Dr. Hyoungsoo Kim
- Electrical Design Team for Society of Automotive Engineers Sponsor: SAE for UNT
- Rocket Sponsor: NASA

Electrical Engineering Technology

- Arduino High-Definition Radio
- Retro Frequency Counter
- Real-Time FPGA Audio Effects Generator
- High-Data Rate, Low-Power Wireless Sensor Network for Structural Health Monitoring Sponsor: NSF grant #1244129

Information Technology

- DNL Solutions Sponsor: UNT CSE Department
- SQL Solutions Sponsor: Daisy Gillam and David Keathly
- Color Your Hat
- Team RamRod Sponsor: Jim Buchanan

Materials Science and Engineering

- Comparison of API X65 5L PSL 1 and PSL 2 carbon steel in a simulated aqueous sour gas environment Sponsor: Cory Weinbel, Denbury Resources, MTSE UNT
- Design Optimization of Multi-Layer Ceramic Ballistic Plates

- Coatings for 600V Metal Wires Sponsor: Encore Wire Corporation
- Friction Stir Welding of Dissimilar Alloys Sponsor: Center for Friction Stir Processing
- Functionally Graded Novel Beta Titanium Alloys for Orthopedic Implants Via Additive Manufacturing
- Precipitation Control of ATIAAllvac 718Plus Alloy for Engine Application
Sponsor: ATI Specialty
- Thermal Stability Studies on Structure and Tribological Properties of Diamondlike Carbon Nanocomposite (DLN) Films
- Varied Length-Scale Porous Metallic Structures Sponsor: Dr. Samir Aouadi and Dr. Marcus Young

Mechanical and Energy Engineering

- Big Rock Oil Sponsor: Victor Lopez, President of the Big Rock Oil Company
- Team Capstone Sponsor: Capstone Metering, Inc.
- SAE Drivetrain Team Sponsor: SGA, Fastenal, Solid Works, Mechanix Wear, Taylor Race Engineering, RBC Bearings, Red Bull, SKF, Timken, Royal Purple, Monster Tool Company, Design Engineering Inc., Wheatridge Manufacturing, Odyssey Manufacturing, Marshall Machining, Crosslink Powder Coating, United Copper Industries, BRM, Peterbilt, Brembo Brakes, RC Engineering, and Diamond Cycles
- ASME Human Powered Vehicle Sponsor: ASME
- The Mean Green Energy Efficient Building Simulation
Sponsor: Trane
- Music Box Sponsor: Franky Gonzalez
- Team Ghost Pepper Sponsor: Peterbilt Motors Company
- Isolated AC System Sponsor: Peterbilt Motors Company
- Raytheon Rocket Nozzle Optimization Sponsor: Raytheon Space & Airborne Systems
- Scuba L.E.A.P. Sponsor: Cecil Simpson
- Friction Stir Welding of Dissimilar Materials Sponsor: UNT
- Evaluation of Vehicle Performance of Non-Pneumatic Tires
Sponsor: Dr. Jaehyung Ju
- MG Ti Engineers Sponsor: Dr. Rajiv Mishra
- Modification of a Treadmill Sponsor: Dr. Brian McFarlin/ UNT Kinesiology Department
- S.E.E Venturi System Sponsor: West Texas Fabrication- Mr. Jim Fletcher
- Deployable Ozone Guardian Sponsor: Dr. Kuruvilla John
- NHTSV ESV Competition Sponsor: Dr. Yu
- Cellular Phone Functional Testing Device Sponsor: Genco
- Formula SAE-Suspension Team Sponsor: SGA, Monster Tool Company, Odyssey Aerospace Components, Wheat Ridge Manufacturing, Bell Helicopter, Mark Nicholas, Fastenal, Peterbilt, Solidworks, RBC Bearings, SKF Bearings, Brembo Brakes, Brush Research Manufacturing, SAMPE, Red Bull, AEM, Miltera, QA1, Cycle Center of Denton, Online Metals, CRD Manufacturing, and Diamond Cycles
- Thermal Expansion Storage Sponsor: Dr. Mun
- Team Hydra Sponsor: Center for Friction Stir Processing at UNT

Mechanical Engineering Technology

- FSAE Chassis Team Sponsor: UNT SGA, Monster Tool Company, Odyssey Aerospace Components, Wheat Ridge Manufacturing, Bell Helicopter, Mark Nicholas, Fastenal, Peterbilt, Solidworks, RBC Bearings, SKF Bearings, Brembo Brakes, Brush Research Manufacturing, SAMPE, Red Bull, AEM, QA1, Cycle Center of Denton, Online Metals, CRD Manufacturing, and Diamond Cycles
- Team 2
- UNT by Design Sponsor: Dr. Yu & UNT Department of Engineering Technology
- Paddle Powered Wheel Chair Attachment Sponsor: Wallace Johnston and Mitty Plummer