Civil Engineering Capstone Design Presentation

Project: Coppermine Athletic Facility – Student Perspective  
Sponsor: Coppermine Field House  
Faculty Advisers: Dr. Shashi Marikunte, Dr. Saravanan Gurupackiam, and Dr. Roger Subramanian

Group #1: Prestige Worldwide  
Project: Precast Concrete Structure with Environmental Focus  
Group Leader: Daniel Reichard  
Members: Trevor Arnott, Shane Dunn, Christopher Krzyzak, Jason McCaslin, Argelis Santana Reyes, Michael Young

Group #2 Blue Lion Engineering Group  
Project: Relocation of Coppermine Terrace  
Group Leader: Thomas Mecca  
Members: Jaclyn Badman, Robert Carr, Joshua Fetterhoff, Erdman Martin, Benjamin Mollard, Kathryn Schwenk

Group #3: Mind over Material  
Project: Skywalk  
Group Leader: John Shear  
Members: Hailey Bordner, Jeremy Nadzam, Arielle Novak, Tarang Patel, Collin Skinner

Group #4: Misfits Construction Services  
Project: Two-phase Rehabilitation of First Floor and Roadway Reconstruction  
Group Leader: Sheila Hromadik  
Members: Marcoantonio Amato, Alexander Berresford, Avram Chernoff, Stephanie Gago, Dominic Rodriguez, Michael Thomas

Group # 5: Next Generation Inc.  
Project: Coppermine Athletic Facility with Rooftop Field  
Group Leader: Jordan Wenk  
Members: Shakir Cohen, Evan Foster, Trung Nguyen, Melissa Orlandini, Ryan Schuster, Howard Wilson, Robert Zenzal

Project: ASCE Steel Bridge  
Sponsor: ASCE Student Club  
Group Leader: Michael Demyan  
Members: Brendan Almeida, Jared Grogan, Nicholas Jackson, Andrew Lobb, Gregory Maguire, Peter Samy, Matthew Sartori  
Faculty Advisers: Dr. Shashi Marikunte and Dr. Grady Mathews IV
Project: Structural Design and Plan for the Exterior walls of a 3rd floor addition to a two floor “Food Distribution Center”
Sponsor: Providence Engineering, Inc.
Faculty Advisers: Dr. Joseph Cecere and Dr. Grady Mathews IV

Group #1
Structural Team: Morgan Bechtel, Christos Katsourides, Ryan Open, Seth Reynolds
Construction Team: Rachel Dixon, Nicolas Henry, Darshit Patel, Levi Shirk, Samantha Wascavage

Group #2
Structural Team: Kyle Anderson, Andrew Fox, Kevin Kompinski, Shreyas Raghavendra
Construction Team: Mathew Buffington, John Galaski, Patrick Johnson-Mayo, Michael Maffei, Alexander Rettinger, Nathan Rocuskie, Zachary Wentz
Project: Middletown Drinking Water Treatment Plant Design
Faculty Adviser: Dr. Yuefeng Xie

Group #1
Members: Mohamed Barrie, Brian Goodling, Angela Stepp, Jialin Yin

Group #2
Members: Sarah Folk, Timothy Hoffer, Hans Shollenberger
Computer Science Capstone Projects

Project: Consilium Path
Group Members: Andrew Brady, Mathew Hare, Paul Lee, Manik Sinha
Faculty Adviser: Dr. Hyuntae Na

Project: Fireside Toolkit
Group Members: Galen Frese, Keith Insley and Rob Levin
Faculty Advisers: Dr. Hyuntae Na and Dr. Omar El Ariss

Project: Planet Foobar
Group Members: Kamal Amouarak, Long Bui, CJ Hernaez, Matthew Mericle, Varun Patel,
Faculty Advisers: Dr. Omar El Ariss

Project: Office Hours Optimizer
Group Members: Matthew Hoare, Timothy Kolstrom, Emily Mras, Luke Snyder, Kyle
Stauffer
Faculty Advisers: Dr. Jeremy Blum and Dr. Hyuntae Na

Project: Penn State Student Connections
Group Members: Samantha Calaio, Alexander Edinger, Zachary Reedy, Alexander Rhone,
Cody Schory
Faculty Advisers: Dr. Jeremy Blum and Dr. Hyuntae Na

Project: Code Champs
Group Members: Nicholas Hain, Griffin Kepp, Martin Lavendier, Casey Reagan
Faculty Advisers: Dr. Jeremy Blum and Dr. Hyuntae Na

Project: Child Caregiver Interaction Scale (CCIS) – Administrator Tools
Group Members: Garrett Asplundh, Vu Nguyen, William Parks, Fernando Santiago, Andrew
Sproger, Michael Zinn
Faculty Advisers: Dr. Jeremy Blum and Dr. Barbara Carl

Project: Child Caregiver Interaction Scale (CCIS) – Website
Group Members: Kevin Bankert, Shane Hall, Amanda Hartman, Shadi Mimari, Devon
Phillips, Louis Willeman
Faculty Advisers: Dr. Jeremy Blum and Dr. Barbara Carl
Electrical Engineering and Technology Projects

Project: Penn State Harrisburg Rocket Project
Sponsor: ASME Student Chapter
Group: Bradlee Maramba and Paul Rabchuk
Faculty Adviser: Dr. Scott van Tonningen

Project: Trailer Hitch Guidance System
Group: Robert Lachman and Barry Layton
Faculty Adviser: Dr. Scott van Tonningen

Project: Modular Electrically Driven Longboard System
Group: Michael Dimbo and Scott Keck
Faculty Advisers: Dr. Scott van Tonningen and Dr. Robert Gray

Project: Energy Management Techniques for Multiple Energy Storage Devices
Group: Sean Horsford, Benjamin Rother and Denise Sheperson
Faculty Advisers: Dr. Scott van Tonningen and Dr. Javad Khazaei

Project: Solar Power Management System
Group: Charles Brommer and Brent Storck
Faculty Advisers: Dr. Scott van Tonningen and Dr. Javad Khazaei

Project: WiFi Automation Relay for Home Automation
Group: Josh VanHout and John Zhang
Faculty Advisers: Dr. Javad Khazaei and Dr. Robert Gray

Project: Pick and Place Machine
Group: Edward Gilbert and Vernon Weaver
Faculty Advisers: Dr. Javad Khazaei and Dr. Scott van Tonningen

Project: Robotic Arm Controller
Group: Max Winslow
Faculty Advisers: Dr. Scott van Tonningen and Seth Wolpert

Project: P.E.C.D. (Power Efficiency Correction Device)
Group: Taylor Martin and Jacob Peiffer
Faculty Advisers: Dr. Scott van Tonningen and Dr. Javad Khazaei

Project: Mindstorms Teaching Robot
Group: Jared Gingerich and Josh Goodyear
Faculty Advisers: Dr. Robert Gray and Dr. Scott van Tonningen

Project: Infrared Improvised Explosive Device (IED) Detector
Group: Joel Nelson and Jacob Rissmiller
Faculty Advisers: Dr. Robert Gray and Dr. Scott van Tonningen
Project: Car2Car Antennae  
Sponsor: TE Connectivity  
Group: Adrian Batson, Quincy Nissley and Zameel Shaki  
External Adviser: Ms. Jane Yun  
Faculty Advisers: Dr. Robert Gray and Dr. Mohammad Tofighi

Project: Optimization of the Thrust Wall Grinding Process  
Sponsor: Fives Landis Corp.  
Group: Ty Carter  
Faculty Advisers: Dr. Robert Gray and Dr. Scott van Tonningen

Project: Search and Rescue Mini-Micro-Mouse  
Group: Valeria Vigueras  
Faculty Advisers: Dr. Robert Gray and Dr. Scott van Tonningen
Mechanical Engineering and Technology Projects

Project: Flight Simulator
Group: Tyler Attinger, Trevor Hultquist, Jacob Pyron, Brandon Wolf
Faculty Adviser: Dr. Ma’moun Abu-Ayyad

Project: Regenerative Braking
Group: Majid Aldossary, Sultan Aldossary, Abdulrahman Alowisi, Faisel Bin Ali
Faculty Adviser: Dr. Ma’moun Abu-Ayyad

Project: Formula SAE Powertrain Team: Air Intake/Turbocharging
Sponsor: SAE Student Club
Group: Jeffery Bartley, Mitchell Ebersole, Nicole Sgrignoli, Richard Wech
Faculty Adviser: Dr. Ma’moun Abu-Ayyad

Project: FSAE Powertrain
Sponsor: SAE Student Club
Group: Nicholas Becker, Mark Brown, Joseph Mereeb
Faculty Adviser: Dr. Ma’moun Abu-Ayyad

Project: Formula SAE Structure and Vehicle Dynamics
Sponsor: SAE Student Club
Group: Shubham Annaldas, Cody Franssen, Athreya Nagesh, Thomas A. Palmer
Faculty Adviser: Dr. Ma’moun Abu-Ayyad

Project: Electro-Pneumatic Shifter System for Formula SAE Applications
Sponsor: SAE Student Club
Group: Milton Cruz, Rohan Gaglani
Faculty Adviser: Dr. Ma’moun Abu-Ayyad

Project: Child Safety Seat Sensor System*
Sponsor: Dr. Richard Ciocci
Group: Paul Askey, Jakob Gordon, Jeffrey Homdouangchay, Amber Hunter, Tyler Stark
Faculty Advisers: Dr. Richard Ciocci, Dr. Javad Khazaei, and Dr. Seth Wolpert
*Combined project with Electrical Engineering and Technology

Project: Child Monitoring Sensor System
Sponsor: Dr. Richard Ciocci
Group: Daniel Aung, Yousef Hassan, Chukwunedum Okonkwo
Faculty Adviser: Dr. Richard Ciocci
Project: Pet Monitoring Sensor System  
Sponsor: Dr. Richard Ciocci  
Group: Yousuf Alhosani, Joseph Klein, Michael Martini  
Faculty Adviser: Dr. Richard Ciocci

Project: Orthopedic Project - Additive Manufacturing Endoprosthesis Project  
Sponsor: Hershey Medical Center  
Group: Alexander Mack, Jonathan Smit, Clint Swartz, Carly Taubenkraut  
Faculty Advisers: Dr. Ola Rashwan, Dr. Greg Lewis (Hershey Medical Center)  
Co-Advisors: Dr. Edward J. Fox, M.D. (Hershey Medical Center) and Dr. Guha Manogharan (PSU-University Park)

Project: Wind Belt  
Group: Spencer Brinser, Christopher Carvalho, Elaina Durnack  
Faculty Adviser: Dr. Ola Rashwan

Project: Volt Vision Intelligent Light Module*  
Sponsor: Volt Vision, Inc. and Betts Industries  
Group: Jacob Devereaux, Thumbi Kamau,  
Faculty Advisers: Dr. Javad Khazaei, Dr. Ola Rashwan and Dr. Seth Wolpert  
*Combined project with Electrical Engineering and Technology

Project: Steel Grit Automatic Vacuum System  
Sponsor: I.K. Stoltzfus Service Corporation  
Group: Mark Balthaser, John Bowling, Dan Goldhahn  
Faculty Adviser: Dr. Ola Rashwan

Project: Gun Sight Automation  
Sponsor: Plouse Precision  
Group: Christina Arasim, Evan Baroni, Jeremiah Pease-Myers, Michael Saylor  
Faculty Adviser: Dr. Ola Rashwan

Project: Hovercraft  
Group: Jared Martin, Moqadamm Qureshi, Siddharth Thapar  
Faculty Adviser: Dr. Ola Rashwan

Project: Reversal Vending Machine  
Group: Joshua Evans, William Columbo, Adrien Levejac,  
Faculty Adviser: Dr. Esfakur Rahman
Project: Waste Container Carrier
Sponsor: Mr. Kent Replogle
Group: Cody Bell, Mason Rudacille, Zachary Yachera
Faculty Adviser: Dr. Esfakur Rahman

Project: Mountain Bike Hydraulic Disc Brake
Group: Nicholas D'Agostino, Alexander Devito, David Pugh
Faculty Adviser: Dr. Esfakur Rahman

Project: Woodland Percussion Production Modifications
Sponsor: Woodland Percussion
Group: Allan Fausnaught, John Letts, Denita McFarland
Faculty Adviser: Dr. Esfakur Rahman

Project: Adjustable Mortising Jig
Group: Kevin Becker, Edgar Lobley, Danielle Schultz
Faculty Adviser: Dr. Esfakur Rahman

Project: Crimp Calculator
Sponsor: TE Connectivity
Group: Steven Cornell, Patrick Gresh-Sill, Caleb Zolko
Faculty Adviser: Dr. Amit Banerjee

Project: Automated Adhesive Application
Sponsor: TE Connectivity
Group: Timothy Van Dam, Udaykumar Merchant, Smit Patel, Josue Velez
Faculty Adviser: Dr. Amit Banerjee

Project: Hydraulic Pressure Monitor*
Sponsor: TE Connectivity
Group: Valerie Amsler, Miguel Berna, Daniel Lopes, Thomas E. Palmer
*Combined project with Electrical Engineering and Technology

Project: Digital Tool Identification
Sponsor: TE Connectivity
Group: Korey Christian, Christopher Gardan, Victor Guzman, Soha Shafik
Faculty Adviser: Dr. Amit Banerjee

Project: Injection Molding Heat Transfer - Thermally Conductive Devices for Heat Transfer
Sponsor: TE Connectivity
Faculty Adviser: Dr. Amit Banerjee

Project: Custom Fatigue Testing Apparatus  
Sponsor: TE Connectivity  
Group: Jordan Brightmeyer, Luis Torres, Joseph Whapham  
Faculty Adviser: Dr. Amit Banerjee

Project: Self-Balancing Unicycle  
Sponsor: Dan Massey  
Group: Michael Dietrich, Drew Evans, Daniel Galante, Kuldip Patel  
Faculty Adviser: Dan Massey

Project: Renewable Energy Trailer  
Sponsor: Dan Massey  
Group: Thomas Lippert, Cavin Miller, Matthew Wang  
Faculty Adviser: Dan Massey

Project: Library HVAC AHU Efficiency Improvement  
Sponsor: Siemens and Penn State Harrisburg – Physical Plant and Maintenance Operations  
Group: Nathan Oatman, Ryan Smith, Zachary Strachan  
Faculty Adviser: Dr. Brian Maicke

Project: Library HVAC - Siemens VAV Retrocommissioning Project*  
Sponsor: Siemens and Penn State Harrisburg – Physical Plant and Maintenance Operations  
Group: Adam Andrews, Russell Kane, Anthony Neiderer  
Faculty Advisers: Dr. Brian Maicke and Dr. Javad Khazaei  
*Combined project with Electrical Engineering and Technology

Project: Vortex Rocket Engine  
Sponsor: ASME Student Chapter  
Group: Miqdad Annab, Ryan Dougherty, Gerardo Talamantes  
Faculty Adviser: Dr. Brian Maicke

Project: Vortex Rocket Test Stand  
Sponsor: ASME Student Chapter  
Group: Robert Chin, Gerardo Martinez, Nicholas Whitsel  
Faculty Adviser: Dr. Brian Maicke