

## *Examples of Capstone Thesis / Research Topics*

Listed below are a few examples of thesis topics. They represent some of the topics that were Researched by MPD students at UDM.

- *“Voltage Regulation Strategy Optimization for Fuel Economy”*
- *“An Improved Product Development Process for the Implementation of Independent Rear Suspension”*
- *“Improving the Vehicle Durability Attribute Verification Process”*
- "Flexible Hemming System Concept Development "
- *“Applying AHP to Enhance the Effectiveness of a Generic Automotive Product Development Cycle”*
- *“Develop an Optimal Production Process Flow for the 6RXX Transmission Utilizing the Livonia Transmission Plant Facility”*
- *“Using Product Attributes, Technology , and Customer Satisfaction Decisions Based on an Assessment of Risks”*
- *“An Optimization System To Balance A Set of Test Requirements To A Fixed Fleet of Prototype Vehicles”*
- *“Optimization of Ford Motor Company’s Powertrain Dynamometer Calibration Process”*
- "Ford Dearborn Paint Shop Optimization"
- *“Gear Manufacturing: Past, Present, and Future”*
- "Establishment of a Chassis Systems Engineering Process (C-SEP) for integrated chassis sub-systems to improve functional alignment with vehicle performance metrics and branding strategies"
- "To demonstrate the variations in tire tread wear during tire break-in and their effects on fuel economy coast-down testing that is conducted on the dynamometer rolls"
- *“Clipmate<sup>TM</sup> Product Development Using MPD Program Methodologies”*
- "System Engineering Management in the Vehicle Safety System Design Process"

## **Examples of Capstone Thesis / Research Topics (Continued)**

- *"Development of a manufacturing capacity planning software to be used as a tool to decide the optimum product manufacturing location"*
- *"Engine Interia Dynamometer"*
- "Ford Modular Engine Program Architecture Study"
- "A system Approach for Assessing the Feasibility of Implementing Modular technology into a Vehicle Program"
- "Application of System Engineering Process for Product Life Cycle Applied to Appearance Development Process"

