Shane Helm Mechanical Option Dr. Jelena Srebric Grunenwald Science and Technology Building- Clarion, PA March 25, 2011

## Presentation Outline- Total 28 Screens, 3 Sample Slides Attached

Introduction- (5 Screens)

- -Introduction and Presentation Layout (2 Screens)
  - +Name, Option, Building Name
  - +Order of Presentation (**Not Covered Architectural Breadth**)
- -Building Statistic Overview (3 Screens)
  - +Background Information (Location, Square Footage, Construction Dates and Method, and Owner)

Mechanical System As Designed- (3 Screens)

-Overview of System Details

Alternative System- Geothermal Heat Pumps (11 Screens)

- -Sizing Geothermal (5 Screens)
- -Construction Breadth for Geothermal Heat Pumps (3 Screens)
- -Energy Comparison with As-Designed System including Payback(3 Screens)

Alternative System- DOAS with Parallel System (8 Screens)

- -Sizing Equipment (Roof Top Units) (2 Screens)
- -Sizing Ceiling Area for Parallel Systems (Radiant Ceiling, Passive and Active Chilled Beams) (3 Screens)
- -Energy Comparison with As-Designed System including Payback(3 Screens)

Conclusion (3 Screens)

- -Recommendations of Results obtained from Alternative System Analysis (2 Screens)
- -Acknowledgements (1 Screen)