Project Title (insert title)

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| Project Team: [Style: Sidebar Heading]  (Insert names and/or delete extra space as  needed; use *shif+return*  to preserve line spacing until final line) [Style: Name}  Client:  (Name of company for which the project was made, if applicable)  Project Advisor:  (Insert name[s] of faculty here; add “s” to “Advisor” if needed)  Industry Advisor:  (Insert name, if applicable; remove, including heading, if not) | Abstract: [Style: Abstract]  Sample Abstract: In this paper we tackle issues relevant to model-based control design for a Urea-based selective catalytic reduction (SCR) process relevant to automotive applications. [Style: Text]  ***Project objective statement***  A three-state, control-oriented, lumped-parameter model (Figure 1) of the system is used to investigate essential controllability and observability properties of the Urea-SCR plant. Results from the controllability and observability analysis of both nonlinear and linearized models are shown to have realistic implications. Observer design for predicting gas phase ammonia slip (Figure 2) is outlined and results presented. An altered definition of the catalyst efficiency is used in control design.  ***Design/analysis details***  It is shown that this altered definition lends itself readily to control synthesis in the sliding mode framework while satisfying the dual control objectives of maximizing NOx reduction and minimizing ammonia slip.  ***Results of project***  **Please note: *Use the embedded styles to format text. Delete everything in this section after the heading and all text in brackets or parentheses, which is there only for your information.***  ***Abstract should not exceed 200 words. The two figures should be referred to in the text body. Font should be 12 points.***   1. ***Briefly introduce the general topic and explain the research objectives; include the importance of solving the problem as appropriate.*** 2. ***Briefly describe the methodology (design and/or analysis) results***   ***Finish with results and/or conclusions. Clearly state your contributions.*** |

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| (Insert Figure 1 here; try to size it so as to leave a minimum of a quarter inch of space around it, and make sure it is sized proportionally) |
| **Figure 1.** (Insert figure caption here) |
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| (Insert Figure 2 here) |
| **Figure 2.** (Insert figure caption here) |