Thesis Title	**Analysis and Design of a Distillation Column process control system**
Programme of Studies	MSc in Sustainable Energy Systems
Course	MES 580 Master Thesis
Area of Study	Process Engineering
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Semester	Fall Semester 2020
Short Description	This final year project delves into the optimization of process control in a distillation column within a refinery layout. The study begins with an introduction to the significance of process control in refining operations. A thorough literature review is conducted, covering the fundamentals of refinery layout, distillation processes, and various topologies of process control for distillation columns. The project then focuses on analyzing a specific process control topology, investigating its control components such as sensors and pumps, and highlighting its advantages and disadvantages. To validate the selected topology, a MATLAB model is created, and simulations are performed to demonstrate its efficacy. The findings are extensively discussed, addressing the potential implications of implementing the chosen process control topology in a refinery setting. The study concludes with insights on how the selected approach can enhance the efficiency, safety, and productivity of distillation processes in the refinery. This research contributes valuable knowledge and practical recommendations for optimizing process control in distillation columns, aiding engineers and operators in refining industries to make informed decisions in their quest for improved operational performance.