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MET 440

Exam 4

Test Reflection

This test demonstrates my work towards explaining the physical meaning of dimensionless parameters and their relation to different heat transfer problems, solving simple convection heat transfer problems, differentiating between forced and natural convection heat transfer, solving force convection problems using different experimental correlations, describing heat transfer through tube banks and packed beds.

For this test, my steps to solving was very similar to the solution. I failed to solve for Reynolds number when solving for the convective coefficient of water. This affected my answer greatly. I did solve for Rayleigh number as well as utilized my calculated temperatures to interpolate the values for Prandtl, thermal conductivity and specific heat. My excel sheet was also not as extensive which may have affected my results.

Given the comparisons to my own solution, I would give myself a B-.

For this test, I utilized Excel. The program helped to confirm my work's correctness and help establish missing variables. The use of Rayleigh numbers and analysis was very important for this exam. Engineers will most likely use this to analyze designs and confirm their own work. I believe I will use these skills in the field in terms of design and analysis. It is important for my professional career as it will serve as a way to check myself and confirm variables that I assume. It will also provide a way to demonstrate the knowledge I have gained from this class. I have been able to apply these skills in other courses, though in the future I believe these skills will be able to be utilized. I have improved on the use of tables and interpolation in order to find certain variables. This course's content will most likely intersect with a career in HVAC or design.