**Transient Diffusion in a Hygroscopic Bead**

Presented to : Professor Phillip Servio

Prepared by  
Ngan Jennifer Tram Su [260923530]

CHEE390 – Computational Methods in Chemical Engineering  
Department of Chemical Engineering  
McGill University

2021.10.19

Table of Contents

[1 Objective 3](#_Toc83747999)

[2 Flowchart 4](#_Toc83748000)

[3 Results 5](#_Toc83748001)

[4 Discussion 6](#_Toc83748002)

[5 Conclusion 7](#_Toc83748003)

[6 Nomenclature 8](#_Toc83748004)

# 1 Objective

Hygroscopic beads dehumidify air by absorbing its water content and can be reused after drying once they’ve reached saturation. The objective of this report was to develop a program that predicts the spatial concentration dependence of the hygroscopic beads as a function of time. This program also reports the time it takes for the centerline dimensionless concentration to reach a specific value.

# 2 Flowchart

# 3 Results

# 4 Discussion

# 5 Conclusion

# 6 Nomenclature