



## MIE498H1: Research Thesis 2024-2025

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<b>Number of Positions</b>	1
<b>Open to</b>	Undergraduate Mechanical Engineering Students
<b>Term Offered</b>	Full-Year (Y)
<b>Research Area</b>	Materials
<b>Research Topic</b>	3d printed acrylic resin modification for anti corrosion coating development

### Project Description

The project aims to measure the effectiveness of chemical and physical surface modification methods on the water repellency of acrylic substrates. To achieve this, we will measure the water contact angle and surface energy of a flat acrylic coating surface modified by different chemistries. These chemistries will be applied to the flat acrylic coating, and the contact angles with different liquids will be measured. Using the Owens-Wendt-Rabel-Kaelble (OWRK) method, the surface energy of the coatings will be calculated. Additionally, after applying these chemistries to various topographies of the acrylic coating, we will measure the water contact angle and calculate the breakthrough pressure of the new coatings with different chemistries.

### Additional Information

N/A

### Application Instructions

Please email Prof. Golovin at [Kevin.golovin@utoronto.ca](mailto:Kevin.golovin@utoronto.ca) with your CV and a brief description of your interest in the project.