

## Master Thesis Brief Description

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<b>Thesis Title</b>	<b>Biogas production from anaerobic digestion of potatoes</b>
<b>Programme of Studies</b>	BSc in Mechanical Engineering, Stream Oil and Gas, Frederick University
<b>Course</b>	ASOG 405 Senior Project
<b>Area of Study</b>	Sustainable Energy Technologies – Biomass assessment
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<b>Supervisory Committee</b>	Dr Chris Christodoulou, Professor, Mechanical Engineering Department Dr. George Karagiorgis, Assoc. Professor, Mechanical Engineering Department
<b>Semester</b>	Spring Semester 2017
<b>Short Description</b>	This, study shows the actions that were taken, in order to adjust the pilot anaerobic digester into its initial state, after 9 years of inactivity. One of the initial steps, that were of major importance, was to discover any defective components, by allowing the A.D. to operate, and notice any unexpected occurrences, that could arise during the time of operation. This was achieved by observing how different measuring devices found at different segments of the A.D. behaved, and together with the assist of the flow chart and the control panel, identify which components required replacement. Other factors that might alter the behavior of the A.D. such as proper air sealing and insulation of the tank, and in fact any component that directly affects the chemical process that happens inside the digester, required constant operation of the machine, and constant monitor of a known substrate found inside the tank (in this case full potatoes), in order to compare the percentage of methane produced, and decide whether or not any other component requires replacement, which is a process that approximately last 1 month