



# Abu Dhabi Polytechnic

## Students' Graduation Project Abstract

<b>Department:</b>	AMT	<b>Semester:</b>	Spring-2022
<b>Project Title:</b>	Development of a novel air cycle machine for aircraft environmental systems		
<b>Supervisor:</b>	Joshua Kitetu		

### Abstract:

Air condition and pressurization system has a massive potential for redevelopment. New Aircraft designs will benefit from improved ideas in aircraft air conditioning with the aim of lowered emissions, more robust and lighter systems based on novel new methods of heat transfer.

In this project, we have managed to develop a novel idea of designing the air cycle machine based on usage on new magneto calorific materials.

We have done a preliminary design which proves lighter and more efficient based on an electric aircraft architecture, such a system is intended to be used on aircraft such as Boeing 787 and future electric aircraft, which do not rely on bleed air.