



# Abu Dhabi Polytechnic

## Students' Graduation Project Abstract

<b>Department:</b>	EMET	<b>Semester:</b>	Spring-2022
<b>Project Title:</b>	Design and Prototype of Autonomous Underwater Vehicle		
<b>Supervisor:</b>	Dr. Osama Ibrahim Hassanein Hassan		

### Abstract:

Underwater vehicles have been used for various purposes, including scientific, commercial, and military. These vehicles are designed as autonomous navigation and control devices to perform underwater tasks. Modeling, control theory, and vehicle control are still significant research and innovation subjects for any of these vehicles.

The project's purpose is to design and build an autonomous underwater vehicle (AUV). The research is separated into two sections: the first deals with vehicle design and implementation, while the second deals with vehicle models and system classification, as well as computer control simulation, depending on the results of the test.

A design of an autonomous underwater vehicle is also described in this report (AUV). AUVs (autonomous underwater vehicles) are automaton submarines that are part of the growing field of autonomous and remotely operated vehicles. This project demonstrates the design and deployment of an AUV as a tested platform for a range of underwater technology studies, including small-scale, surface water, and low-cost underwater robotics. This article discusses the overall design and its considerations in detail. SolidWorks created the prototype for the AUV. It'll have a set mechanical device and body and a modular automatic system that will allow for the creation of various controllers. The microcontroller & motors have been based on a small scale in surface water, with good results. Some of the factors that affect AUV performance are also discussed in detail for additional studies.