



# Abu Dhabi Polytechnic

## Students' Graduation Project Abstract

<b>Department:</b>	EMET	<b>Semester:</b>	Spring-2022
<b>Project Title:</b>	Control System for Geothermal Power Application		
<b>Supervisor:</b>	Eng. Aboobacker Muriyan		

### Abstract:

This Project is concerned with designing and implementing a low-cost working model of the geothermal power plant. Hot spring steam at high pressure and temperature is fed into a 3D printed steam turbine designed on Solid works software, which converts the thermal energy of steam into mechanical energy. While the turbine then converts the mechanical energy into electrical energy via the generator. In this project, a closed-loop steam control system is designed to control the solenoid valve to feed the steam into the turbine if the temperature and pressure from the hot spring reach a predefined minimum value. The UAE's clean energy strategy includes producing 75% of electricity from clean energy sources by 2050. Underground geothermal heat, which is the heat generated by high temperature hot springs, is the first choice for power generation. Researchers evaluated the potential for power generation at geothermal locations in Al Ain, Ras Al Khaimah, and other sites of the UAE. They concluded the possibility for 1,000 megawatts of electricity using geothermal energies from these areas.