

ERASMUS+ Experience Report

Name:	Murray
Sending Institution:	Carl von Ossietzky University of Oldenburg, Germany
Host Institution:	National Technical University of Athens, Greece
Dates of ERASMUS+ Stay:	13.02.2023 – 31.05.2023

Preparation

The preparation process included research into the ERASMUS+ grant, application for the grant and coordination between the sending and host institutions. The ERASMUS+ application forms were relatively easy to fill out and several were provided in English which made the process easier. The Online Learning Agreement (OLA) required several signatures from representatives at the University of Oldenburg and NTUA. However, it proved difficult to obtain the signatures from NTUA as their ERASMUS representatives did not respond to emails quickly. After all the forms were completed, the remainder of the preparation was relatively easy.

Travel and arrival

I traveled to Athens by several methods, however there were not many green travel options as the distance between Oldenburg, Germany and Athens was far. I took two regional trains from Oldenburg to Bremen, then Bremen to Hamburg and then transferred to the Hamburg metro line that runs to the airport. From there I flew to Athens direct from Hamburg in a 4-hour flight. When I arrived in Athens, I took the metro from the airport to my apartment. The metro system in Athens was very good, with frequent trains around the city and to the airport.

Accommodation

Accommodation in Athens was a little difficult to find as Greece does not use many online rental platforms. I ended up using Airbnb in a shared apartment with another person as it seemed to be the easiest, and safest, however other students in the program found apartments through previous ERASMUS students or professors' recommendations from NTUA.

Studying at the host university

My experience at the host university, the National Technical University of Athens, was great. The campus was not quite what I expected, and was poorly maintained on the outside, however the quality of education was excellent. My program was the European masters in renewable energy coordinated by EUREC, with a specialization in wind energy. The semester at NTUA consisted of four modules, 7.5 ECTS credits each for a total of 30 ECTS credits. The modules consisted of the following topics:

Module 1: (7.5 ECTS) Wind potential, Aerodynamics & Loading of Wind Turbines	The analysis of wind potential in flat and complex terrain, aerodynamic features of wind turbines, the prediction of the aerodynamic behavior of blades using blade element theory, solving problems of Structural dynamics, and aeroelasticity.
Module 2: (7.5 ECTS) Wind Turbine Design, electrical & Control Issues, Certification	Electrical conversion systems, wind turbine control, design of wind turbines, performance testing and

	modelling, electrical integration, standards and certification and large-scale integration.
Module 3: (7.5 ECTS) Wind Farm Technology, Economics & Environmental Issues	Wind farm technology issues, wind farm design (wake effect, etc.), wind turbine economics, environmental issues, market development and status of industry, offshore wind, and wind forecast.
Module 4: (7.5 ECTS) Mini-Project and Wind Farm Study	Mini-Project: a literature review and presentation on the topic of my choosing related to the field of wind energy. Wind farm study: from start to finish of a wind farm based off of provided data

During our semester we took an excursion to a wind farm on Agios Georgios island where we got a fantastic tour of the wind turbines and substation facilities on the island, run by Terna Energy. We also completed a weeklong lab to construct 4 small wind turbine blades out of wood and test them under different wind speeds in NTUA's wind tunnel.



a) Agios Georgios Island Wind Farm



b) Blade Construction Lab

Everyday life and leisure time



a) Meteora Monasteries



b) Santorini, Greece

Greece is a beautiful country! There were several Greek islands close by that were perfect for day trips on the weekends and it was convenient to rent a car or take a train to see the sites on mainland Greece, like Meteora and Olympia. In Athens the main historical site was the Acropolis in the center of the city. As our semester began in February, we were there before the tourist season began which allowed us to see the tourist sites with less crowds and cheaper entrance fees. Most tourist sites and ferry companies also had off-season discounts for Greek students under 25.



c) Acropolis of Athens, Greece



d) Ancient Olympia, Greece

General experience and conclusion

Overall, my experience at NTUA and in Athens was amazing. The Greek people were kind, most spoke English and were always willing to help. Through my semester abroad I was exposed to many different cultures, traditions and experiences that have helped me grow and learn to adapt quickly to new environments. I am grateful for the opportunities I have had through the ERASMUS+ program and would recommend it to any student looking to do a semester abroad. My advice for future students would be to apply for anything they want to do, even if it seems challenging or unattainable, you can always handle more than you think you can.