

Studying Wind Turbines at the National Technical University of Athens SoSe23

Studying at the National Technical University of Athens (NTUA) from February 2023 to May 2023 has been an exceptional experience for me. During this period, I focused on wind turbines, delving into various aspects of their design, construction, and operation. This report aims to provide an overview of my experiences studying wind turbines at NTUA, highlighting significant activities and accomplishments.

Building a Wooden Wind Turbine at the Lab:

One of the highlights of my study at NTUA was the opportunity to construct a wind turbine using wood at the university's lab. This hands-on experience allowed me to understand the practical aspects of wind turbine construction. From designing the turbine blades to assembling the entire system, this project provided valuable insights into the engineering principles behind wind turbines. It also gave me a chance to collaborate with fellow students, fostering teamwork and problem-solving skills.



Visit to Agios Georgios Wind Farm:

As part of the curriculum, I had the privilege of visiting the Agios Georgios Wind Farm (73MW). This field trip was an enriching experience as I witnessed real-world wind turbines in action. It allowed me to observe the scale and complexity of a wind farm and understand how multiple turbines work together to generate renewable energy. This visit also provided an opportunity to interact with industry professionals, gaining insights into the practical challenges and advancements in the field of wind energy.



Main courses such as aerodynamics and noise:

During my study period, I attended courses on important subjects related to wind turbines, including aerodynamics and noise. The aerodynamics lectures provided a comprehensive understanding of the forces acting on wind turbine blades and how they can be optimized for maximum energy conversion. Exploring the intricate relationship between blade design, wind speed, and efficiency enhanced my knowledge of wind turbine performance.

The courses on noise focused on the impact of wind turbine operation on the surrounding environment. I learned about the various sources of noise generated by wind turbines and the strategies employed to mitigate noise pollution. This knowledge is crucial for developing environmentally-friendly wind farms that are accepted by local communities.

Through discussions, project collaborations, and presentations, I gained valuable insights into current research and developments in the industry. These interactions also facilitated the exchange of ideas and the establishment of professional connections that will prove invaluable in my future endeavors.



General experience:

My semester at the National Technical University of Athens (NTUA) was not only a valuable academic journey but also an opportunity to explore the captivating country of Greece. As I

pursued my studies in wind turbines, this report aims to provide an overview of my experiences at NTUA, highlighting significant activities related to wind turbines and the memorable moments of visiting Greece with my coordinator and classmates.

Cultural Experiences:

During our visit to Greece, we indulged in the rich history and vibrant culture of the country. We explored iconic landmarks such as the Acropolis, the Parthenon, and Delphi, immersing ourselves in the ancient Greek civilization. These experiences not only provided a break from our academic pursuits but also fostered a deeper appreciation for the country's heritage.



Conclusion:

My experience studying wind turbines at the National Technical University of Athens was a remarkable journey that seamlessly combined academic pursuits with cultural exploration. The academic curriculum at NTUA provided me with a strong foundation in wind energy technology, and the hands-on experiences and visits to wind farms enhanced my practical understanding of the subject.

Furthermore, the opportunity to explore Greece with my coordinator and classmates enriched my overall experience. The combination of visits to wind farms and immersing ourselves in Greek culture and history created lasting memories. These experiences not only broadened my horizons but also instilled a sense of appreciation for the renewable energy industry and Greece's unique contribution to it.

I am grateful for the comprehensive education and memorable experiences provided by NTUA and will carry the knowledge and connections gained during my time there into my future career in the field of wind energy.

In the end, I would like to give special thanks to Dr. George Caralis and Dr. Riziotis Vasilis for all their help and efforts and unforgettable memories of these 4 months.