

ENAE 672 Unsteady and Inviscid Aerodynamics

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Anya Jones

Department of Aerospace Engineering, University of Maryland

This course focuses on the fundamental fluid dynamics of unsteady and inviscid flows with application to wing theory, rotors, flapping wings, and wind and tidal turbines.

Sustainability Learning Objectives At the end of the course, students are expected to:

- Be aware of the availability of sustainable energy and the challenges associated with harvesting this energy supply.
- Recognize the importance of considering not only an individual energy harvesting device, but the entire system as a whole.

Assignments Course lectures, assigned journal article readings, and homework assignments will incorporate concepts of sustainability with a focus on the aerodynamics of wind, tidal, and wave power.

- Some assigned journal articles will be selected to demonstrate the experimental methods and considerations that are involved in modeling and designing efficient renewable energy harvesting systems.
- Some assigned homework problems will be framed to highlight the pros, cons, and challenges in the design and implementation of renewable energy harvesting techniques.

Assessing Student Learning Student learning of sustainable energy concepts will be assessed primarily through journal article critiques. These essays and discussions provide an excellent forum in which students can communicate and demonstrate their understanding.