



# Building a Robust Workforce in Electric Power Engineering Albuquerque, NM March 16-17, 2023



## Naval Power Curriculum Development Naval Postgraduate School – Energy Academic Group



Shipboard Power Engineering

Education

Naval

### Curriculum Description

The Naval Power Curriculum Development effort is intended to create **open-source coursework** that will improve the general body of knowledge in **shipboard power systems**. There are many similarities to terrestrial power systems, but special considerations are sometimes required for shipboard power applications.



### Focus Areas

**Education topics** related to specific shipboard power considerations (**commercial and military vessels**) such as:

- Power System Fundamentals
- Motors and Generators
- Power Electronics
- Power Quality
- Shipboard Distribution Networks
- EPLA
- Electrical Propulsion
- Energy Storage
- Shipboard design integration



### Content

The goal is to create **coursework available to anyone** for integration into existing programs or for expansion on a topic of interest at any school. Professors and Departments can use pieces or entire modules to create their own series of courses to expand their program offerings. The content would include lectures, homework, solutions, and topics of discussion within the classroom. For use by **government, academic institutions or industry** and tailored to the needs of the organization.

### SME's/Educators

The content creation method that is being developed will **partner SME's within industry, government, and academia**. Through this model each sector can use their respective strengths to create the best possible solution for students. The industry and government SME's will provide real-world examples to study while the academics can provide the educational structure to ensure the best student outcomes possible.

### Students

General assumption of student knowledge base is a STEM undergraduate degree or equivalent knowledge. Students would not be limited to DOD specific institutions but would be able to **attend from any institution** due to the open-source format. Courses may also be used as **continuing education for professional engineers**.