

Student Outcomes and Performance Indicators – **Faculty Assessment**
 Department of Engineering & Engineering Technology
 College of Professional Studies
 Metropolitan State University of Denver

EET 3430 (7)

POWER GENERATION USING RENEWABLE ENERGIES

Semester/year

Specific, Measurable Student Behavioral Learning Objectives:

Upon completion of this course the student should be able to:

1. Analyze the problems, advantages and disadvantages inherent in the most common types of renewable energy-fueled power systems concentrating on photovoltaic and wind generation.
2. Solve engineering problems concerning the locating and design of wind and solar-fueled power plants.
3. Define the basic design requirements for wind, solar, and other types of renewable-fueled power plants.
4. Provide a basic description of the power electronics interface with the power grid.
5. Describe the operation of induction, synchronous, double-fed induction, and other common types of wind generators and their interface with the power grid.
6. Outline the basic requirements for interfacing solar-fueled power plants with the power grid.
7. Define the basic elements of fuel cells and the implications of the hydrogen economy.

ABET	Competency Area	Data Collection
d	an ability to design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives	
i	an understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity	

ADDITIONAL COMMENTS:

PLEASE:

1. MAKE SURE ALL REFERENCES ARE IN Y DRIVE;
2. SAVE THIS FILE UNDER THE COURSE NUMBER, FOR EXAMPLE: CET1000 SPRING 2018.DOC;
3. SEND YOUR REPORT TO LINDA;

 <Name>

 <Date>

Following tables define the Performance Indicators for each of the Student Outcomes a through k

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ABET d: an ability to design systems, components, or processes for broadly-defined engineering technology problems appropriate to program educational objectives				
	Unsatisfactory	Developing	Satisfactory	Exemplary
Establish criteria for engineering technology design problems	Unable to develop or understand design criteria	Understand the design criteria but unable to develop	Understand and developed some criteria in assigned problem	Proper solutions obtained
Develop designs of products, systems, or processes that respond to authentic needs	Unaware of or not understanding the needs	Knowledge or skill set not enough for solving the engineering technology problem	70% partial solution or better	Proper solutions obtained
Take into account the social, economic, or environmental constraints on the design	Unaware of the impacts the issues	Some awareness, but not clear	Understand the issues but unable to incorporate into the design problem	Proper considerations discussed and planned ahead

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ABET i: an understanding of and a commitment to address professional and ethical responsibilities including a respect for diversity				
	Unsatisfactory	Developing	Satisfactory	Exemplary
Know the code of ethics for the related profession	Unaware of the code of conduct in profession	In progress of learning	Understand	Apply properly
Demonstrate positive attitude towards others	Show no respect to others	Understanding the importance of proper professional conduct	Proper professional conduct	Demonstrate positive attitude towards others
Show awareness for diverse ideas and cultural differences	Unaware of diversity and cultural differences	Learning in progress such as taking MC courses	Successfully completed some MC and diversity related courses	Fully aware and respectable for diversity and cultural differences