

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

CPE 4320 (3)

Digital Filter Design

Semester/year

Course Category and Related Student Learning Outcomes:

1. Determine when to choose digital or analog filters using criteria such as
 - a. Content of noise spectra
 - b. Distance between analog data and the computer
 - c. Likelihood of design changes
 - d. Cost of components vs. cost of software development
 - e. Time available for processing results
2. Design simple classical filters, which are recursive and non-recursive
3. Apply computer programs to accomplish
 - a. Fourier analysis
 - b. Fast Fourier Transform
 - c. Discrete Fourier Transform
 - d. Power Spectra

ABET	Competency Area	Data Collection
c	an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability	
e	an ability to identify, formulate, and solve engineering problems	
i	a recognition of the need for, and an ability to engage in life-long learning	

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 c: an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability				
	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 e: an ability to identify, formulate, and solve engineering problems				
	Unsatisfactory	Developing	Satisfactory	Exemplary
Identify and describe technical problems	Unable to understand problem	Understand the problem but unable to provide solutions	Some solutions or ideas in solving the problem	Proper solution obtained
Recognize standard procedures in solving specific technical problem	Unaware of standard procedures	Realize standard solution procedures but unable to implement	Some solutions are obtained	Properly use standard solution procedure or provide alternate ways of solutions
Manage information and solve technical problems	Unable to gather information needed	Unaware of the importance of managing and documenting information	Some management and documentation of information	Proper documentation and management of information

ABET i: a recognition of the need for, and an ability to engage in life-long learning				
	Unsatisfactory	Developing	Satisfactory	Exemplary
Acknowledge the importance of professional development	Unaware of the needs for continuing professional development	Understand the needs, but show no interests in	Interested	Actively searching for the opportunities of continuing professional development
Participate in continuous education in technical specialty related subjects	Unaware of continuous education opportunities in related technical subjects	Unable to attend	Attending when ordered	Actively participating in continuing educations