

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

CPE 3715 (8)

Control Systems Analysis

Semester/year

Course Category and Related Student Learning Outcomes:

1. Analyze linear feedback system stability, response, and performance
2. Determine the closed-loop transfer function from desired performance
3. Design compensation to achieve a closed-loop behavior, using PID compensators
4. Describe the advantages/disadvantages of feedback and quantify system robustness
5. Create and interpret Bode plots of system frequency response
6. Make time and frequency domain measurements of control systems
7. Make transfer function models of control systems based upon noise measurements
8. Design, build, test lead lag, compensatory control systems and PID

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	
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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 f: (f) an understanding of professional and ethical responsibility				
	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