

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

MET 2200 (8)

MATERIALS OF ENGINEERING

Semester/year

Specific, Measurable Student Behavioral Learning Objectives:

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

1. Relate to the mechanical properties of engineering materials.
2. Identify the physical properties of materials as related to the mechanical, thermal, chemical, and electrical properties as found from laboratory experiences.
3. Apply material knowledge to the manufacturing process.
4. Identify metals using their atomic lattice structure.
5. Relate metallic phases to behavioral characteristics.
6. Analyze and identify pure and alloyed metals by their microstructure.
7. Identify and relate annealing, precipitation hardening, and tempering processes to the heat-treatment of metals.
8. Identify types, structures, properties and fabrication techniques of plastics, ceramics, and composite materials.

ABET	Competency Area	Data Collection
c	an ability to conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes	
f	an ability to identify, analyze, and solve broadly-defined engineering technology problems	
g	an ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature	

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 conduct standard tests and measurements; to conduct, analyze, and interpret experiments; and to apply experimental results to improve processes				
	Unsatisfactory	Developing	Satisfactory	Exemplary
Select, set up, and use equipment for experiments	Unable to identify proper equipment	Unable to use most of the identified equipment	Able to use the equipment under supervision	Conduct test and measurement properly and safely
Select, set up, and use data collection and analysis software	Not understanding the needs of data collection	Unable to use most of the identified software	Able to use the software under supervision	Properly use of the identified software
Understand the results	Not understanding the results	Some understanding of the results	Understand the results with help	Properly interpret and present the results

ABET f: an ability to identify, analyze, and solve broadly-defined engineering technology 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

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ABET g: an ability to apply written, oral, and graphical communication in both technical and non-technical environments; and an ability to identify and use appropriate technical literature				
	Unsatisfactory	Developing	Satisfactory	Exemplary
Use proper format and grammar in written and oral communications	Unaware of the need of communications in engineering technology practice	Unable to use format and grammar for effective communication	Able to communicate in technical environment	Present properly to both non-technical and technical audience
Use appropriate graphics in oral and written presentations	No understanding of importance of graphics	Unable to produce all graphics needed	Some applications of graphics in presentation	Presentation with proper graphical aids
Paraphrase technical and non-technical literature satisfactorily	Unaware of the need in technical literature	Unable to identify and research for proper literature	Some literature research	Present properly to both non-technical and technical audience