COURSE SYLLABUS

Tunxis Community College

Education That Works For a Lifetime

Course Title:	Introduction to Materials Science	**Date submitted:**	Fall 2013 (13-40)
Department:	Business and Technology		
Curriculum:	Technology Studies		

Course Descriptors: Make certain that the course descriptors are consistent with college and Board of Trustees policies, and the current course numbering system.

Course Code: (eg. ACC 101)	MEC*264
Course Type:	L

A: Clinical B: Lab D: Distance Learning
I: Individual/Independent L: Lecture N: M: Seminar Internship
P: Practicum U: Studio
X: Combined Lecture/Lab Y: Combined Lecture/Clinical/Lab Z: Combined Lecture/Studio

Elective Type:	G

AH: Art History E: English FA: Fine Arts FL: Foreign Language
G: General HI: History HU: Humanities LAS: Liberal Arts & Sciences M: Math S: Science SS: Social Science

Credit Hours:	3
Developmental: (yes/no)	No
Contact Hours: Lecture:	0
Clinical:	0
Lab:	0
Studio	0
Other:	0
TOTAL:	3
Class Maximum:	35
Semesters Offered:	F/S

Prerequisites:

C- or better in Integrated Reading and Writing II (ENG*075) OR Introduction to College Reading & Writing (ENG*093) OR Introduction to College English (ENG*096) OR Reading & Writing VI (ESL*162), or placement into Composition (ENG*101) [including embedded ENG*101]

Corequisites:

None

Other Requirements:

None

Ability-Based Education (ABE) Statement:

At Tunxis Community College students are assessed on the knowledge and skills they have learned. The faculty identified the General Education Abilities critical to students' success in their professional and personal lives. In every class, students are assessed on course abilities, sometimes program abilities, and, in most classes, at least one General Education Ability. Students will receive an evaluation of the degree to which they have demonstrated or not demonstrated that General Education Ability.

Catalog Course Description:

Introduces the principles and concepts of how industry changes forms of raw materials to increase value and usefulness. Awareness of the nature and characteristics of raw materials permits associations to be made regarding selection of processes by which materials may be changed.

Topical Outline: List course content in outline format.

1. Atoms, Matter and Material
2. Acquisition and Derivation of Materials
3. General Properties of Materials
4. Identification of Specific Materials
5. Cutting Materials
6. Forming Materials

	7. Casting Materials 8. Fastening Materials 9. Treating Materials 10. Finishing Materials
Outcomes: Describe measurable skills or knowledge that students should be able to demonstrate as evidence that they have mastered the course content.	**Upon successful completion of this course, the student will be able to do the following:** **COURSE:** 1. classify materials by recognizing basic similarities 2. understand the relationship between a material's structure, its properties and appropriate processing techniques 3. demonstrate an understanding of the concepts relevant to the processing of materials 4. comprehend the interrelationship of energy, information and material processing 5. apply the principles of material science to industry applications and scenarios 6. demonstrate an appreciation of and comfort with the comprehensiveness of material processing
	PROGRAM: *(Numbering reflects Program Outcomes as they appear in the college catalog)* **Technology Studies Associate Degree:** 2. utilize the tools, materials, techniques, and technical processes of engineering and technology when solving technical problems 3. apply the basic concepts of science and mathematics to the study of electricity and electronics, materials, computer-aided design (CAD), manufacturing, and construction 7. demonstrate technical competency in a functional area of technology. The specialization may include, but is not limited to: electricity, computer aided drafting and design, manufacturing, and construction
	GENERAL EDUCATION: *(Numbering reflects General Education Outcomes as they appear in the college catalog)*
Evaluation: List how the above outcomes will be assessed.	Assessment will be based on the following criteria: Homework assignments Projects Quizzes Exams
Instructional Resources: List library (e.g. books, journals, on-line resources), technological (e.g. Smartboard, software), and other resources (e.g. equipment, supplies, facilities) required and desired to teach this course.	Required: None Desired: None
Textbook(s)	Refer to current academic year printout.