COURSE SYLLABUS

Tunxis Community College

Education That Works For a Lifetime

Course Title:	Introduction to Geometric Dimensioning & Tolerancing	Date submitted:	4/30/2018 (18-29)
Department:	Advanced Manufacturing 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)	MFG*160
Course Type:	L

A: Clinical B: Lab D: Distance Learning I: Individual/Independent L: Lecture N: Internship M: Seminar 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:	3
Clinical:	0
Lab:	0
Studio	0
Other:	0
TOTAL:	3
Class Maximum:	24
Semesters Offered:	Fall, Spring

Prerequisites:

Blueprint Reading I (MFG*124)

Corequisites:

None

Other Requirements:

None

Catalog Course Description:

Geometric Dimensioning and Tolerancing (GD&T) is a language used on mechanical engineering drawings composed of symbols used to communicate accurately and efficiently geometry requirements for associated features on components and assemblies. GD&T is, and has been, successfully used for many years in the automotive, aerospace, electronic and the commercial design and manufacturing industries. In today's modern and technically advanced design, engineering and manufacturing world, effective and accurate communication is required to ensure successful end products. Topics include the following: introduction to symbols and terms, limits to size, data reference frame, form tolerance, geometric system functionality, orientation tolerances, position tolerances, profile tolerances, coaxial tolerances, tolerance analysis, and applications.

Topical Outline: List course content in outline format.	[The outline should be in title case and use the numbering format below. You may not have subtopics, but if you do, here is the format.] 1. Conventional dimensioning and tolerancing 2. Standard symbols of GDT 3. Datums 4. Material condition 5. Tolerances of Form and Profile 6. Tolerances of Orientation and Runout 7. Tolerances of Location
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: Abilities should start with a measurable verb that students do. You do not need any punctuation at the end. Examples of some verbs you could use follow and more can be found at http://online.bcit.ca/guidelines/step2/Outclass.htm] (Note: The examples below are cognitive abilities. See the website for others.) 1. Demonstrate an understanding of all the symbols used in GDT. 2. Demonstrate an ability to determine the acceptability of manufactured parts based on GDT requirements. 3. Demonstrate an ability to use GDT symbols on an engineering drawing to completely specify the form and limits of variation of features. 4. Demonstrate an ability to use GDT symbols to specify the form and limits of variation of mating parts to insure that they will assemble properly 5. Demonstrate an understanding of datums and datum reference frames. 6. Demonstrate an understanding of virtual conditions and their application to tolerancing mating parts.
	PROGRAM: *Electronics Technology Certificate and A.S. Degree* [Any Program Abilities should be cut and pasted here as they appear in the current catalog, including numbers. Please note that MSWord may have numbered these automatically, so when you cut and paste, make sure the numbers are correct – you will need to make them "hard" numbers rather than auto numbers.] 1. Demonstrate an understanding of Shop Safety. 2. Demonstrate an understanding the theory of electrical structure, voltage, current, resistance, and electrical circuit and their measurement. 3. Demonstrate an understanding of the basic laws of arithmetic. 4. Demonstrate an understanding of several number systems and codes that are the foundation of digital theory and digital applications. 5. Make comparisons with personal computers; as well as, develop an understanding of its origin and growth since conception. 6. Demonstrate an understanding of the fundamentals of Automated Manufacturing systems.

	GENERAL EDUCATION: *(Numbering reflects General Education Outcomes as they appear in the college catalog)* [Select the General Education Abilities from the listing below.] No General Education outcomes.
Evaluation: List how the above outcomes will be assessed.	Assessment will be based on the following criteria: 1. Quizzes 2. 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 required Desired: None
Textbook(s)	Geometric Dimensioning and Tolerancing, David A. Madsen, latest edition