08/19/2025

CUYAMACA COLLEGE
CURRICULUM COMMITTEE

Date Received_____
CURRICULUM COMMITTEE VOTE
Date_____
Approved_____
Disapproved_____

COURSE MODIFICATION

SLOs

1. **Existing Course Subject/Number** CADD TECHNOLOGY 128

   Existing Title GEOMETRIC DIMENSIONING AND TOLERANCING (GD&T)

2. **Initiated By** CYRUS SAGHAFI, CADD TECHNOLOGY/CTE
   (Instructor, Division/Department)

3. **List below only the items being changed in both the present and proposed format** (allows for easy comparison of items being modified).

   ATTACH THE COURSE OUTLINE WITH EDITS SHOWN
   (Underline for changes and addition, strike-through for deletion of text)

   (Note: If entries are too lengthy for space provided, type "see attached outline")

	PRESENT	PROPOSED
Subject	_____	_____
Number	_____	_____
Title	_____	_____
Lecture Hours	_____	_____
Lab Hours	_____	_____
Units	_____	_____
Prerequisite	SEE ATTACHED OUTLINE	_____
Corequisite	_____	_____
Recommended Preparation	SEE ATTACHED OUTLINE	_____
Catalog Description	Fill in proposed, see attached outline with edits	_____

4. **CHECK ADDITIONAL ITEM(S) TO BE MODIFIED:**

   ☐ *Course Content
   ☐ *Course Objectives
   ☒ *Method of Evaluation
   ☐ *Method of Instruction
   ☐ Instructional Facilities
   ☐ Special Materials
   ☐ Work Experience Hours

   *Curriculum Committee may review these modifications for General Education certification

5. **DOES THIS COURSE MODIFICATION AFFECT AND/OR DUPLICATE ANOTHER COURSE, ASSOCIATE DEGREE OR CERTIFICATE?** At Cuyamaca College ☒ Yes ☐ No At Grossmont College ☐ Yes ☒ No
   If yes, identify the division or department to whom a Course Alignment form or Letter of Intent has been sent, with the accompanying proposed course outline and evidence of response in order that articulation may be arranged. In cases where it affects a program or certificate at Cuyamaca College, please notify the applicable chair/coordinator and submit a Modification of Program. Attach the original Course Alignment form or Letter of Intent showing the response from the division or department. The Curriculum Committee will not review any proposal that affects Grossmont or any division or department at Cuyamaca unless the completed Course Alignment form or Letter of Intent is attached.

CADD TECHNOLOGY/CTE	CUYAMACA	5/15/2005	_____
Division/Department	College	Date Sent	Date Returned

6. **REASON FOR MODIFICATION**: Provide a statement explaining why the course is being modified, and how it will improve the department and the campus-wide curriculum.
   MODIFICATION MADE BASED ON REQUIREMENT OF RELEVANT INDUSTRY

7. **VOCATIONAL COURSES:** Has this course modification been reviewed and recommended by your Advisory Committee?
   ☐ Yes ☒ No If No, when will it be reviewed? Fall 2025

8. Are there any changes to items 9 through 14? If yes, continue with items 9 through 14. If no, proceed to the signature and date.

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9. **TITLE 5 CLASSIFICATION**: Have any of the Title 5 course standards been affected by this modification that would require a change in the course classification (i.e., Associate Degree Credit or Nondegree Credit)? ☐ Yes ☒ No
   If yes, please identify the standards that have been affected: _____

10. **LOWER DIVISION BACCALAUREATE LEVEL DESIGNATION** ☐ Yes ☒ No

A lower division baccalaureate level course is one which an accredited four-year college or university will accept for transfer as a GE course or part of a lower division requirement for a major or as a general elective. Please list a representative four-year college that offers a comparable lower division course (see Articulation Officer for recommendation).

_____
(Representative Four-Year Institution)

11. LIBRARY RESOURCES AND INFORMATION COMPETENCY SUPPORT: If the modification is substantial enough that additional library resources would be necessary, attach the supplementary *Library Resources & Information Competency Support* form. This form must be signed by a librarian. You may obtain a copy of the form at www.cuyamaca.net/library

12. If this course is recommended for cross-listing, please attach rationale for approval by the Curriculum Committee.
List the matching course: _____
(example: CADD 115/ENGR 115)

13. GENERAL EDUCATION: If the course is being proposed to satisfy general education requirements for the Associate Degree, the CSU or UC system, it must meet the appropriate GE guidelines (attach the appropriate GE form).

		PRESENT		PROPOSED	
a.	☒ Not requesting GE credit for this course				
b.	☐ General Education - Associate Degree (refer to "A.S. or A.A. General Education Degree Requirements" in catalog)	Area _____	Section _____	Area _____	Section _____
c.	☐ General Education - CSU Certification (refer to "GE Breadth Requirements for CSU" in catalog)	Area _____	Section _____	Area _____	Section _____
d.	☐ General Education - IGETC (refer to "IGETC Transfer Curriculum" in catalog)	Area _____	Section _____	Area _____	Section _____

14. MAJOR OR CERTIFICATE: If this course is being proposed to satisfy part of a major of an associate degree or certificate, please provide the following information. (If this course is being recommended as part of a major or certificate, please submit the appropriate Program Modification/Addition form.)

a. ☒ This course is not being proposed as part of a major or certificate.
b. ☒ AA/AS Degree Major CADD TECHNOLOGY/MANUFACTURING
(example: Ornamental Horticulture, Emphasis: Floristry)
c. ☒ Certificate Major CADD TECHNOLOGY/MANUFACTURING
(example: Ornamental Horticulture, Emphasis: Floristry)

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I have reviewed this form for completeness and recommend this course modification:

Cyrus Saghafi
Department Chair/Coordinator

8/11/2025
Date

I do/do not recommend this course modification:

Division Dean

08/19/25
Date

Vice President, Instruction
(following Curriculum Committee action)

Date

CUYAMACA COLLEGE
COURSE OUTLINE OF RECORD

CADD TECHNOLOGY 128 – GEOMETRIC DIMENSIONING AND TOLERANCING (GDT)

3 hours lecture, 3 units

Catalog Description
Provides the complete fundamentals of Geometric Dimensioning and Tolerancing (GD & T) concepts as adopted by the American National Standard Institute (ANSI) standards: ASME (American Society for Mechanical Engineers)/ANSI Y14.5-~~2009~~2018. The importance of precision technique in conjunction with Computer-Aided Drafting and Design (CADD) is emphasized. The content of this course is considered to be one of the fundamental components to the engineering design and drafting profession.

Prerequisite
~~"C" grade or higher or "Pass" in CADD 120 or equivalent~~
"C" grade or higher or "Pass" in CADD 125/ENGR 125 or equivalent

Recommended Preparation
~~"C" grade or higher or "Pass" in CADD/ENGR 125 or equivalent~~

Entrance Skills
Without the following skills, competencies and/or knowledge, students entering this course will be highly unlikely to succeed:
1) Use of ~~AutoCAD~~SolidWorks terms, concepts and techniques in engineering drafting and design.
2) Application of ~~AutoCAD~~SolidWorks in 2D geometric shapes and 3D modeling drawing.
3) Add dimensions and tolerances to drawings.
4) Perform ~~AutoCAD~~ SolidWorks editing commands to make necessary changes.

Course Content
Dimensioning and tolerancing engineering drawings using parametric software and other methods prescribed in the American National Standards Institute Document No. Y14.5M-~~2009~~2018, to include:
1) General application of dimensioning and tolerancing and related principles
2) Material condition and material boundary and applications
3) Form and orientation tolerances, and applications
4) Location and profile tolerances, and applications
5) Runout tolerances and applications

Course Objectives
Students will be able to:
1) Demonstrate the skills needed to dimension and tolerance engineering drawings using symbology, formulas and interpretations per the requirements of ASME/ANSI Y14.5M-~~2009~~2018 standards.
2) Explain the relationship between GD & T and the CADD system and utilize the tolerancing terms and concepts in dimensioning of engineering drawings.
3) Demonstrate and apply the material condition and material boundary.
4) Present and apply the form and orientation tolerances in engineering drafting and design.
5) Evaluate and analyze the location tolerances of working drawings.
6) Comprehend and apply the general GD & T to the working drawing to enhance the information for the drawing.

Method of Evaluation
A grading system will be established by the instructor and implemented uniformly. Grades will be based on demonstrated proficiency in subject matter determined by multiple measurements for evaluation, one of which must be essay exams, skills demonstration or, where appropriate, the symbol system.
1) Classroom and group activities which measure students' ability to articulate the fundamental concepts and skills used in the geometry involved with dimensioning and tolerancing.
2) Student portfolio of drawing exercises which measure students' ability to demonstrate skill and competency in using and applying dimensioning and tolerancing in conjunction with computer aided drafting tools for engineering drawings.
3) Final project which measures students' ability to use proper dimensioning techniques in engineering drawings in accordance with "ANSI" or "ISO" standards.
4) Midterm and final exam which measure students' ability to describe and apply proper dimensioning tolerancing concepts, terminology, and techniques in engineering graphics.

Special Materials Required of Student
Electronic storage media – Thumb drive, ~~2~~ 4GB

Minimum Instructional Facilities
CAD computer lab

Method of Instruction
Mechanical models and lectures using tests from text and work-along print reading exercises reinforced with videos

Out-of-Class Assignments
1) Weekly homework
2) Produce a portfolio of all activities, including in-class activity

Texts and References
1) Required (representative example): Madsen, David. *Geometric Dimensioning and Tolerancing*. ~~9th~~ 10th edition. Goodheart-Wilcox, ~~2013~~2021. ~~ISBN 978-1-60525-938-3~~ISBN 13: 9781645646433
2) Supplemental: None

Exit Skills
Students having successfully completed this course exit with the following skills, competencies and/or knowledge:
1) Use proper dimensioning techniques in accordance with industry standard.
2) Create drawings using ASME/ANSI standards.
3) Understand the use of datum plane and datum axis for proper dimensioning.
4) Use geometric tolerancing in areas of:
   a. Flatness, parallelism, straightness, circularity, angularity.
   b. Perpendicularity, profile, runout.
   c. Position, concentricity, symmetry.
5) Create a working drawing using all geometric tolerancing symbols from industry.

Student Learning Outcomes
Upon successful completion of this course, students will be able to:
1) Differentiate between maximum material condition (MMC) and least material condition (LMC) material conditions for the machining.
2) Interpret drawing applications specifying "regardless of feature size" (RFS) and "regardless of material boundary" (RMB) of the machined object.
3) Dimension and tolerance engineering drawings in accordance with national and international standards.

4) Use geometric tolerancing in areas of; flatness, parallelism, straightness, circularity, angularity; perpendicularity, profile, runout; and position, concentricity, symmetry.
~~4) Use geometric tolerancing in areas of:~~
~~5) Flatness, parallelism, straightness, circularity, angularity.~~
~~6) Perpendicularity, profile, runout.~~
~~7) Position, concentricity, symmetry~~

CUYAMACA COLLEGE
ENTRANCE SKILLS

PREREQUISITE AND RECOMMENDED PREPARATION
CONTENT REVIEW DOCUMENTATION FORM

Department/Program: CADD TECHNOLOGY **Date**: 10/01/2025

Course Reviewed: CADD 128/ENGR 128

Documentation for:
- ☑ Prerequisite
- ☒ Recommended Preparation

Note: For corequisite, see "Corequisite Skills Content Review Documentation Form"

List the results of the content review directly on the course outline under the following statement:
Entrance Skills: Without the following skills, competencies and/or knowledge, students entering this course will be highly unlikely to succeed: (input text directly on course outline)

Type of prerequisite/recommended preparation (check all that apply):

☒	Standard……..	requires content review and 3 CSU/UC catalogs
☒	Sequential……	requires content review
☐	Cross Discipline…..…….	requires content review AND data collection
☐	Basic Skills……..	requires content review AND data collection
☒	Performance……	requires content review
☐	Health and Safety…..……..	requires content review
☒	Recency……	requires data collection

This prerequisite/recommended preparation (check one):

☒ currently exists and is being reviewed ☐ is newly proposed

List the Prerequisite/Recommended Preparation course: CADD 115/ENGR 100
(attach an Exit Skills Content Review Documentation Form if needed)

Cyrus Saghafi

Department Chair/Coordinator

Division Dean

Faculty Participants: