

## How to take the Geometric Dimensioning and Tolerancing Class On-line

Thank you for choosing the GD&T on-line class. The goal of the on-line class is to allow busy people an avenue to an understanding of the principals of GD&T and provide college credits for your effort.

All CDI students (you are most likely one of those if you are reading this) are required to join the CDI e-mail list. Go to [WWW.CAD-RESOURCES.COM](http://WWW.CAD-RESOURCES.COM) and click on the “Join Our Emil List” button and follow the prompts. You will get helpful information and Class related information through your email. We will tell you if there is a change in the assignments or if for some reason I am unable to instruct a class, etc. Also, click on the CDI51 GD&T button to go to our class page. Here you will find the Assignment Sheet and the Green Sheet and copy of these instructions.

On-line students are required to send me an email stating their intention to take the class on-line. Email [steven.keith@comcast.net](mailto:steven.keith@comcast.net) with the subject “I am taking GD&T CDI51 on-line (Your Name). **Example:** “I am taking GD&T CDI51 on-line Steven Keith.”

You have chosen not to attend class and therefore will miss the lectures. You are in no way excluded from class. You may attend any or as many classes as you might find helpful. Since you are not required to attend any of the lectures, you will of course be required to read each assigned chapter of our textbook. Don't feel alone as all of the in class students will also read each chapter. I expect that each chapter will take no more than a half hour to read. You may ask any questions that you like and I will attempt to answer them. Simply send your questions to [steven.keith@comcast.net](mailto:steven.keith@comcast.net). I will attempt to reply in less than 24 hours.

At the end of each chapter is a “Test” and “Print Reading Exercises” All students will complete each Test and Print Reading Exercise. You may use a word processor or handwrite your answers. Please do not tear pages from your book. Please place your name, chapter, and either Test or Print Reading Exercise on your answer sheet. You need only write the question number and the answer to complete the homework. If you are submitting the work online, you may send it in by US Mail, E-mail, or drop in my basket in our classroom. For the E-mail option, please place the following information in the Subject. CDI51 Chapter “Number”, “Test” or “Print Reading Exercise” and your full name. **Example:** CDI51 Chapter 2 Test Steven Keith. Be sure to attach your work then send it to [gillelandmax@fhda.edu](mailto:gillelandmax@fhda.edu).

I am also asking that you create a few drawings. You will find the input for these drawings just before the print reading exercises. All of the problems are assigned. You can still get full credit for the course if you only complete 90% of the drawings. Use this information to determine how many of the drawings that you will complete. You may use any software that you are comfortable with. If you need help with AutoCAD or Inventor you may come to class and I can help you. Max is available during class time to help with Solid Works and Pro E. Use any other software and you are completely on your own. You need not use any software. You may not sketch the drawings but you may use your

drafting skill to complete the work as well. I am only interested in the finished orthographic drawing, not how you created it. You can consider me the end user of a document. In most companies, commercial or military, it is the paper document which carries the GD&T data.

The preferred method for the submission of the drawing problems is printed on paper and placed in my basket. If you do turn in your work in this way, please do not also submit it electronically. Please read the instructions at the beginning of the drawing problems section. You are required to place notes on the drawing. You will find many helpful examples of good drafting practice in the Print Read Exercises area. For my in-class students, the assignments are due on the day they are assigned. We do this to maintain continuity of course lectures and study materials. On-line students work at their own pace and need only be aware of the Final class day as no work may be submitted after that day.

When you're creating a drawing please keep these things in mind:

- Understand the printing process. I will print your work on letter size paper. If your text is too small, I won't be able to read it. If your text is too large, it will take up too much drawing space and you won't have room for all of it. Print your work yourself and insure that it is legible. Text, for example, should be between .06 and .12 inches high **when printed**
- You are not limited to using the A size Format. Try using the C size Format. Both formats will print nicely on letter size paper, but the titleblock of the C size Format is much smaller in proportion to the drawing area than the A size Format.
- We place our dimension on orthographic views, not on isometric (pictorial) views. You can begin to see why we use orthographic views as you try to interpret the isometric presentation of the problems.
- Leave enough room between dimensions to add another dimension without moving the existing dimensions. Crowded work can be very hard to read.
- Place your dimensions outside the outline of the object
- Don't cross dimension text or dimension lines with other text or extension lines.
- Completely dimension all the features of the object in your drawing (watch out for and try to avoid double dimensioned features. Too many dimensions can be as confusing as too few. Use reference dimensions only when they can clarify a feature. For instance: if you have chain dimensioned an object you may provide a ref dimension to give the overall dimension of the chain.
- Leaders defining radius and diameter should point at the center of the circle or arc.
- Dimension extension lines and leaders should not cross dimension lines.
- Ordinate dimensions should have their text .75" from the object envelope **when printed**.
- Centerlines should be used to couple multiple object features (holes, projections, and groups of features).
- The term (n)X should be used after the dimension text to indicate the text is used to define multiple objects. (n) is the number of times that the text applies. Example for a hole leader text "Ø .25 5X".

- Text should be within the extension lines if possible, if not then arrowheads should be within the extension lines with the text removed, only if there is not room for the arrowheads, may both the arrowheads and text be outside the extension lines.
- Extension lines should be .06 inches from an object **when printed**.
- Arrowheads should be closed filled unless otherwise specified.
- Circles should have centerlines which extend .12 inches beyond the circle **when printed**.
- Radii should not have centerlines or center marks unless the mark is being used to locate the radius.
- Leading zeros shall not be found on inch dimensions. Leading zeros shall be used with metric dimensions.
- To determine the dimension precision (the number of digits or zeros to the right of the decimal point), use the problem example. You may also ask me if this isn't clear for a specific problem.
- Tolerance text should be the same size as the dimension.
- Dimensions given as fractions should be stacked.

If you can not deliver your work in person some time during the week then you may submit your work via e-mail to [gillelandmax@fhda.edu](mailto:gillelandmax@fhda.edu). Include the following information in the subject; CDI51 Drawing Exercise (Number of the Exercise(s)) "Your Name". Example CDI51 Drawing Exercises 1-3 Steven Keith