

**NORTHWEST -SHOALS COMMUNITY COLLEGE**  
**Drafting and Design Technology**  
**DDT 215 Geometric Dimensioning and Tolerancing**

**Instructor:** Alton Rice      **E-mail Address:** alton.rice@nwsccl.edu  
**Office Hours:** As Posted      **NWSCC Website:** [www.nwsccl.edu](http://www.nwsccl.edu)      **Phone:** 331-5257  
**Credit hours:** 3 Hrs      **Contact:** 5 Hrs      **Lecture:** 2 Hrs      **Lab:** 3 Hrs

**Program/Degree:** Drafting and Design Technology / Associate in Applied Science Degree

**Description:** This course is designed to teach fundamental concepts of size description by geometric methods including appropriate engineering controls. Emphasis is placed on the drawing and application of common geometric dimensioning and tolerancing symbols to engineering drawings as designated by the latest ANSI/ASME Standards. Upon completion, students should be able to use geometric dimensioning and tolerancing symbols in applying size information and manufacturing controls to working drawings.

**Prerequisites:** DDT 111, DDT 112, or permission of the Instructor

**Primary Text:** Engineering Drawing and Design – Third Edition  
Madsen, Folkestad, Schertz, Shumaker, Turpin, and Stark  
Delmar Publishers - 2002

**Supplies:** 3 ½" 1.44mb Diskette or 100mb Zip Disk

**Course Objectives:**

Upon completion of this course, the student will be able to;

***Dimensioning and tolerancing*** – tolerance, limits, specified dimension, maximum material condition, least material condition, clearance fit, allowance, interference fit.

***Symbols and terms*** – geometric characteristic symbols, material condition symbols, datum identification, feature control frame, basic dimension, order of elements.

***Datums*** – high point contact, specific point contact, datum frame, datum axis, partial datums.

***Material condition symbols*** – maximum material condition, regardless of feature size, least material condition.

***Geometric characteristics*** – straightness, flatness, circularity, cylindricity, profile, parallelism, perpendicularity, angularity, concentricity, runout, combination of geometric characteristics.

***Position*** – conventional tolerancing versus positional tolerancing, composite positional tolerance, floating fasteners, fixed fasteners, location multiple features, positional tolerance at MMC, zero positional tolerance, virtual condition projected tolerance zone.

**Teaching Strategies:**

The instructor will present the information through lectures, demonstrations, and assignment of drafting tasks.

**Assignment Schedule**

Week/ Meeting	Topic	Assignments/ Read
1	Syllabus Review of General Tolerancing Introduction to Geometric Dimensioning and Tolerancing	As Assigned By Instructor
2	Dimensioning and Tolerancing	As Assigned By Instructor
3	An Introduction to Symbols, Terms, and CAD	As Assigned By Instructor
4	Datums	As Assigned By Instructor
5	Feature Control Frame	As Assigned By Instructor
6	Basic Dimensions Geometric Tolerances	As Assigned By Instructor
7	Geometric Tolerances (cont.) <b>Review for Test 1 – Pages 458 - 477</b>	As Assigned By Instructor
8	<b>Test 1 - Pages 458 - 477</b> Material Condition Symbols	As Assigned By Instructor
9	Tolerances of Form and Profile	As Assigned By Instructor
10	Tolerances of Orientation and Runout	As Assigned By Instructor
11	Location Tolerances	As Assigned By Instructor
12	Location Tolerances and Virtual Conditions	As Assigned By Instructor
13	Additional Problems	As Assigned By Instructor
14	Additional Problems <b>Review for Final Exam – Pages 477 – 497</b> <b>Part 1 - Questions and Part 2 - Calculations</b>	As Assigned By Instructor
15	<b>Final Exam– Pages 477 - 497</b>	

<b>Grading Policy</b>	<b>Notes</b>	<b>Actual Score</b>	<b>Possible Points</b>
<b>Mid-Chapter Test</b>			<b>300</b>
<b>Lab Assignments</b>			<b>300</b>
<b>Final Exam</b>			<b>300</b>
<b><i>Attendance, Attitude, and Participation</i></b> (This grade will be based on # of absences, your daily attitude in class, and your participation in class discussions.)			<b>150</b>
<b>Total Points</b>			<b>1000</b>

All grades will be available for student viewing at the end of each semester. You must use your assigned pin number to log in at the NWSCC website: [www.nwsc.edu](http://www.nwsc.edu) assigned

Grades will be assigned as follows:

- A = 900 to 1000 Points**
- B = 800 to 899**
- C = 700 to 799**
- D = 600 to 699**
- F = Less Than 600**

**MISCELLANEOUS INFORMATION:**

This syllabus is subject to amendment by the Instructor at his or her discretion. Students shall be notified of any such amendment.

Northwest-Shoals Community College's policy regarding academic honesty will be **strictly enforced!** As a common courtesy to the instructor, you should attend classes promptly at specified starting times. If you are going to be absent, for any reason, you should contact the instructor as soon as possible. This will establish communications with the instructor about the possibility of making up your work. Make-up test and assignments shall be given on an individual basis and only with a proper excuse. Class attendance is an important part of learning, and is required in the Drafting curriculum. **If a student is absent more than 20% of class meetings that student may receive a grade of "F" for the course.**

It is **"your"** responsibility to contact the instructor for make-up test and missed assignments. If you are absent for a test or assignment, because of a proper excuse, you must take the test or make up the assignment, at the next regularly scheduled class meeting. **If you refuse to do this, you will receive a "0" as the grade for that particular test or assignment.** Completing laboratory assignments is an integral part of you training. **All students must satisfactorily complete at least 75% of all daily lab assignments/graded activities to receive a passing grade in the course.** The exact number of assignments for the course shall depend on the abilities of the entire class as a whole, and shall be determined by the end of the semester. **If a student does not complete "75%" of the total number of assignments, the student will receive a grade of "F" for the course.**

### **AMERICANS WITH DISABILITIES ACT (ADA)**

It is the policy of Northwest-Shoals Community College to comply with the Americans with Disabilities Act (ADA). Any student covered under this act needing and desiring reasonable accommodations for this class should **notify the Instructor and the Department of Student Services, during the first week of class.**