

## NORTHWEST -SHOALS COMMUNITY COLLEGE

### Drafting and Design Technology

#### DDT 122 Advanced Technical Drawing

**Instructor:** Alton Rice      **E-mail Address:** alton.rice@nwscc.edu  
**Office Hours:** As Posted      **NWSCC Website:** www.nwscc.edu  
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**Credit hours:** 3                      **Contact:** 5 Hrs.                      **Lecture:** 2 hrs.                      **Lab:** 3 Hrs.

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

**Description:** This course covers the methods of providing size description and manufacturing information for production drawings. Emphasis will be placed on accepted dimensioning and tolerancing practices including Geometric Dimensioning and Tolerancing for both the Customary English System and the ISO System. Production of drawings using and specifying common threads and various fasteners, including welding methods.

**Prerequisites:** DDT 103, DDT 111, DDT 112, DDT 121, or permission of the instructor.

**Text:** Engineering Drawing and Design – Third Edition  
Madsen/Folkestad/Schertz/Shumaker/Turpin/Stark  
Delmar Publishers / Thompson Learning

**Supplies:** Standard drafting tool kit  
100 MB Zip Disk

**Course Rationale:** A complete set of detail drawings must include dimensions. Those dimensions are necessary to fully describe the shape and size of a part. This course provides instruction in the proper application of dimensions to detail drawing, as well as an overview of the common fastening methods and their graphical representation on industry drawings in accordance with ANSI and other industry standards.

**Course Objectives:** Upon completion of this course the student will be able to;

1. Apply dimensions, tolerances, and notes to drawings to acceptable standards.
2. Produce drawings indicating threaded fasteners.
3. Use industry tables and charts to identify thread designations.
4. Define terms and attributes associated with fastening methods.
5. Identify welding processes
6. Draw welding representations and provide proper welding symbols and notes.

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

# Assignment Schedule

Week/ Meeting	Topic	Assignments/Read
1	Introduction Syllabus	As Assigned By Instructor <b>Chapter 12</b> Read Pages 332 – 339
2	The engineering design process ANSI/ASME Dimensioning systems Dimensioning Rules and Definitions	As Assigned By Instructor Read Pages 340 – 346
3	Dimensioning fundamentals & preferred dimensioning practices Dimensioning angles, chamfers, arcs, and conical shapes Dimensioning contours not defined as arcs	As Assigned By Instructor Read Pages 347 – 355
4	Notes for size features and general notes Location dimensions Dimensioning auxiliary views	As Assigned By Instructor Read Pages 355 – 360
5	Tolerance definitions Types of fits Allowances	As Assigned By Instructor Read Pages 360 – 371
6	Miscellaneous dimensioning Machining allowances Machined surfaces and symbols <b>Review for Test (Chapter 12)</b>	As Assigned By Instructor <b>Chapter 13</b> Read Pages 386 – 390
7	<b>Test - Chapter 12</b> <b>Begin Chapter 13</b> - Introduction to fasteners and springs Screw thread fasteners terminology	As Assigned By Instructor Read Pages 391 – 396
8	Drawing Screw Threads Thread representations, notes and forms	As Assigned By Instructor Read Pages 397 – 408
9	Drawing screw heads Miscellaneous types of fasteners	As Assigned By Instructor Read Pages 409 – 412
10	Springs and spring terminology Types of Springs & Spring representations <b>Review for Test (Chapter 13)</b>	As Assigned By Instructor Read Pages 693 – 696
11	<b>Test - Chapter 13</b> <b>Begin Chapter 21</b> - Welding Processes and Representations Introduction	As Assigned By Instructor Read Pages 696 – 704
12	Elements of Welding Drawings Welding Symbols	As Assigned By Instructor

**Assignment Schedule (Cont.)**

<b>Week/ Meeting</b>	<b>Topic</b>	<b>Assignments</b>
13	Welding Symbols (cont.) Additional Weld Characteristics	As Assigned By Instructor Read 706- 711
14	Welding Test and Specifications Weld Design <i>Review for Final (Chapter 21)</i>	As Assigned By Instructor
15	<i>Final Exam – Chapter 21</i>	

<u><i>Grading Policy:</i></u> <i>Write your score in each block!</i>	<u><i>Score 1</i></u>	<u><i>Score 2</i></u>	<u><i>Score 3</i></u>	<u><i>Total Score</i></u> (Possible Score)
<b>Chapter Test – Chapters 12, 13 (150 Points Each)</b>	Chapter 12 (150)	Chapter 13 (150)		(300)
<b>Lab Assignments</b> – Groups of assignments may be given one grade or assignments may be graded individually. This will be at the instructors’ discretion.				(300)
<b>Final Exam – Chapter 18 (300 Points)</b>				(300)
<b>Attendance, Attitude, &amp; Participation (100 points)</b> Grade will be based on # of absences, daily classroom attitude, and participation in class discussions)				(100)
<b>YOUR TOTAL SCORE IS</b>	<input type="text"/>			(1000)

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.nwscc.edu](http://www.nwscc.edu) assigned

Grades will be assigned as follows:

<b>A</b>	<b>=</b>	<b>900 to 1000 Points</b>
<b>B</b>	<b>=</b>	<b>800 to 899</b>
<b>C</b>	<b>=</b>	<b>700 to 799</b>
<b>D</b>	<b>=</b>	<b>600 to 699</b>
<b>F</b>	<b>=</b>	<b>Less Than 600</b>

#### **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.**