

NORTHWEST -SHOALS COMMUNITY COLLEGE

Drafting and Design Technology

DDT 117 Manufacturing Processes

Instructor: Alton Rice
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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 in materials and processes includes the principles and methodology of material selection, application, and manufacturing processes. Emphasis is directed to solids to include material characteristics, castings, forging, and die assemblies.

Prerequisites: None

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

Supplemental Text: Machinery's Handbook – Latest Edition
Industrial Press, Inc.

Supplies: Standard Drafting Tool Kit
3 ½", 1.44mb Diskette or 100mb Zip Disk

Course Objectives:

After completion of this course the student will be able to;

- Define and describe various manufacturing materials, material terminology, numbering systems, and material treatment.
- Discuss casting processes and terminology.
- Explain the forging processes and terminology.
- Describe and draw the representation of various machined features.
- Explain tool design and drafting practices.
- Describe manufacturing processes.
- Discuss the statistical process quality control assurance system.
- Evaluate the results of an engineering and manufacturing problem.
- Explain the use of computer-aided-manufacturing (CAM) in today's industry.
- Discuss robotics in industry.

Assignment Schedule

Week/ Meeting	Topic	Assignments
1	INTRODUCTION SYLLABUS	As Assigned By Instructor CHAPTER 11 DEFINITIONS 1 THRU 70
2	MANUFACTURING MATERIALS	As Assigned By Instructor CHAPTER 11
3	MANUFACTURING PROCESSES CASTINGS	As Assigned By Instructor CHAPTER 11
4	MANUFACTURING PROCESSES FORGINGS	As Assigned By Instructor CHAPTER 11
5	MACHINE PROCESSES MACHINE TOOLS	As Assigned By Instructor CHAPTER 11
6	CHEMICAL MACHINING <i>DEFINITIONS CHECKED - (1 THRU 70)</i> <i>GRADED ON COMPLETENESS & ACCURACY – 1 POINT EACH</i>	As Assigned By Instructor CHAPTER 11 DEFINITIONS 71 THRU 140
7	MACHINED FEATURES AND DRAWING REPRESENTATIONS <i>TEST 1 (240 Points) – PART I - MANUFACTURING MATERIALS</i> <i>DEFINITIONS (1 THRU 70)</i>	As Assigned By Instructor CHAPTER 11
8	MACHINED FEATRUES AND DRAWING REPRESENTATIONS NWSCC - MACHINE SHOP TOUR	As Assigned By Instructor CHAPTER 11
9	MACHINED FEATURES AND DRAWING REPRESENTATIONS	As Assigned By Instructor CHAPTER 11
10	DESIGN AND DRAFTING OF MACHINED FEATURES TOOL DESIGN <i>DEFINITIONS CHECKED - (71 THRU 140)</i> <i>GRADED ON COMPLETENESS & ACCURACY – 1 POINT EACH</i>	As Assigned By Instructor CHAPTER 11 DEFINITIONS 141 THRU 210
11	<i>TEST 2 (220 Points) – PART II MANUFACTURING PROCESSES</i> <i>DEFINITIONS (71 THRU 140)</i>	As Assigned By Instructor CHAPTER 11
12	CIM, CADD, CAE, CNC, CAM, CAQC CONCURRENT ENGINEERING / ROBOTICS PARAMETRICS AND RAPID PROTOTYPING	As Assigned By Instructor CHAPTER 11
13	GUEST LECTURES INDUSTRY TOURS	As Assigned By Instructor
14	<i>DEFINITIONS CHECKED - (141 THRU 210)</i> <i>GRADED ON COMPLETENESS & ACCURACY – 1 POINT EACH</i> REVIEW FOR FINAL EXAM	As Assigned By Instructor
15	<i>TEST 3 (180 Points) – PART III - MACHINE PROCESSES</i> <i>DEFINITIONS (141 THRU 210)</i>	

Grading Policy	Score 1	Score 2	Score 3	Total Scores	Possible Points
Test – Chapter Questions - Part 1, 2, & 3 Definitions – 1 thru 210	Questions Part I & Definitions 1 – 70 (240 Pts)	Questions Part II & Definitions 71 - 140 (220 Pts)	Questions Part III & Definitions 141 - 210 (180 Pts)		640
Definitions/Research – (1 point each definition)	Definitions 1 – 70 (70 Pts)	Definitions 71 - 140 (70 Pts)	Definitions 141 - 210 (70 Pts)		210
Attendance, Attitude, & Participation (150 points based on # of absences, daily attitude, and participation in class discussions)					150
Total					1000 Pts.

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**

DEFINITIONS:

Definitions shall be acquired through extensive research using various means. (Internet, Library, etc...) Finding some terms may be difficult. I assure you all terms are legitimate. Many words have different meanings; therefore, you should always select the definition that is related to manufacturing processes, marketing, or industry in general. Try not to get frustrated. All of you will have the same level of difficulty in finding these definitions, so the assignment is fair to all. If you do not have most of the terms defined, when I check your work and review for the test, you will not be able to attend the review session. You must **“TRY”**. The **major intent** of this assignment is your learning how to do **“research”**. It was not meant to be easy.

Words of advice...do not wait till the day before they are due to begin searching. Do not spend too much time looking for a definition, skip it and go to the next one then return later. Even though they are assigned in sections, I suggest you work on **all definitions** from the beginning. I will supply the correct answers before each test. I know which definitions are the most difficult to find. You should be able to find the remaining ones.

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.**