



Introduction to Layout and Fabrication –WLDG-1417

Course Syllabus: Summer 2017

“Northeast Texas Community College exists to provide responsible, exemplary learning opportunities.”

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Office Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Online
	12:00-2:30pm	12:00-2:30pm	12:00-2:30pm	12:00-2:30pm		

The information contained in this syllabus is subject to change without notice. Students are expected to be aware of any additional course policies presented by the instructor during the course.

Course Description for WLDG-1417: Four hours credit. A fundamental course in layout and fabrication related to the welding industry. Major emphasis on structural shapes and use in construction.

Prerequisite: WLDG 1313, WLDG 1425, WLDG 1428, WLDG 1430, WLDG 1434 or consent of instructor. Students enrolled in his course must have a set of hand tools that they may furnish or purchase from the college bookstore. Additional course fee: \$65.00.

Required Textbook(s):

Basic Principles and Applications, 7th edition, by Larry Jeffus

Publisher: Delmar, Cengage Learning

ISBN Number: ISBN-13: 978-1-111-03917-2. ISBN-10: 1-111-03917-8

Recommended Reading(s): None

Student Learning Outcomes:

Describe and demonstrate basic understanding of: Safety issues related to fabrication. Lay out and trace parts. Point-out the advantages of using custom fabrication parts. The use of location and alignment points when assembling a project. Explain how to adjust parts to meet the tolerance. Describe how to control distortion. Identify common sizes and shapes of metals used in weldments. Proper assemble and fit up parts for welding.

Exemplary Educational Objectives: None

SCANS Skills:

Type Scans skills here; workforce only

Academic transfer - type N/A

Assignments:

SCANS Skills:

Course Objectives

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

Objectives for this course are listed in the handout that covers Competencies/tasks.

Lectures & Discussions:

Task Code	Task Description
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**1702.00 Layout & Fabrication Hans on...
Introduction to Common Fractions and Mixed Numbers
(F1, F5, F11, C5, C10, C18)**

1702.01	Express fractions in lowest terms
1702.02	Express fractions as equivalent fractions
1702.03	Express mixed numbers as improper fractions
1702.04	Express improper fractions as mixed numbers
1702.05	Determine least common denominators
1702.06	Express fractions as equivalent fractions having least common denominators
1702.07	Add fractions and mixed numbers
1702.08	Subtract fractions
1702.08	Subtract mixed numbers
1702.10	Multiply fractions
1702.11	Multiply mixed numbers
1702.12	Divide by common fact (cancellation)
1702.13	Divide Fractions
1702.14	Divide mixed numbers

**1703.00 Layout & Fabrication Hans on...
Introduction to Introduction to Geometric Figures
(F1, F5, F11, C5, C10, C18)**

1703.01	Add, subtract, multiply, and divide angles in terms of degrees, minutes, and seconds
1703.02	Express decimal degrees as degrees, minutes, and seconds
1703.03	Express degrees, minutes, and seconds as decimal degrees
1703.04	Measure angles with a simple protractor
1703.05	Measure angles with a simple protractor
1703.06	Lay out angles with a simple protractor
1703.07	Read settings on a vernier bevel protractor
1703.08	Compute complements and supplements of angles
1703.08	Protractors – Simple and Vernier
1703.10	Measure angles with a simple protractor
1703.11	Layout angles with a simple protractor
1703.12	Read settings on a vernier bevel protractor
1703.13	Compute complements and supplements of angles

**1704.00 Layout & Fabrication Hans on...
Introduction to Angles**

(F1, F5, F11, C5, C10, C18)

1704.01	Angles
1704.02	Identify different types of angles
1704.03	Determine unknown angles in geometric figures using the principles of opposite, alternate interior, corresponding, parallel, and perpendicular angles
1704.04	Introduction to Triangles
1704.05	Identify different types of triangles
1704.06	Determine unknown angles based on the principle that all triangles contain 180°
1704.07	Identify corresponding parts of triangles
1704.08	Geometric Principles for Triangles and Other Common Polygons
1704.08	Identify similar triangles and compute unknown angles and sides
1704.10	Compute angles and sides of isosceles, equilateral, and right triangles
1704.11	Determine interior angles of any polygon
1704.12	Introduction to Circles
1704.13	Identify parts of a circle
1704.14	Solve problems by using geometric principles which involve chords, arcs, central angles, perpendiculars, and tangents

1705.00 Layout & Fabrication Hands on...
Introduction to Fundamentals Geometric Constructions
(F1, F5, F11, C5, C10, C18)

1705.01	Make constructions which are basic to the machine trades
1705.02	Lay out typical machine shop problems using the methods of construction
1705.03	Basic Calculations of Angles and Sides of Right Triangles
1705.04	Compute an unknown angle of a right triangle when two sides are known
1705.05	Compute an unknown side of a right triangle when an angle and a side are known
1705.06	Simple Practical Machine Applications
1705.07	Solve simple machine technology problems which require the projection of auxiliary lines and the use of geometric principles and trigonometric functions
1705.08	Complex Practical Machine Applications
1705.08	Solve complex applied machine technology problems which require forming two or more right triangles by the projection of auxiliary lines

The students will have to furnish their own Metal and tools, to include: Tape measure, Chalk line, Hand level, Pocket square, and heavy duty 4-1/2” Grinder as real PRO does! This course requires students to complete a class project. The project is student funded. It has been the experience of the instructor that a viable project can be completed with a maximum expense of \$1,000. Upon completion of the project, the student owns the project. Should a student not wish to complete a project independently, they may choose to participate in a group project. Group projects and group members must be approved within the first week of class.

Other Course Requirements:

Each student will lease a welding tool set from the school for \$40.00 per semester. **The toolbox will be issued to and inventoried by the student and he/she is responsible for it.** *This tool set cannot leave the shop area and students will not be allowed to share too boxes.* The student will be required to pay for any tools lost or intentionally damaged.

General Classroom and Lab Policies

The Mechanical Power Technology program, like most other vocational programs, has policies that must be followed. These policies will give you, the student, a better opportunity to learn the mechanical power trade. *The general classroom and lab policies are in the Mechanical Power Technology Shop Safety Manual.* The instructor may have additional policies for their class.

General Safety Policies

Anyone with extremely long hair must have some way to keep it up (hair net, hat). There will be no open-toe shoes worn in the shop (sandals, flip flops). Each student will be required to have a pair of safety glasses to be at all times. *The general safety policies are in the Mechanical Power Technology Shop Safety Manual.* The instructor may have additional safety policies for their class.

Student Responsibilities/Expectations:

Dress

It is important to present a professional image in the work place. Therefore, students are required to wear 100% cotton long sleeve shirts. They may be purchased in the bookstore or you can purchase in town. If your employer furnishes uniform shirts, they may be worn in place of the school shirt. These shirts should be clean and neat at all times. You must have an approved uniform Welding Clothing by the second week of class. If you do not, you will not allowed to start any hands-on welding in the lab and 10 points will be deducted from your professionalism grade each class period proper welding clothing is not worn. **Shorts and sandals are not allowed. Professional appearance is part of your grade**

NTCC Academic Honesty Statement:

"Students are expected to complete course work in an honest manner, using their intellects and resources designated as allowable by the course instructor. Students are responsible for addressing questions about allowable resources with the course instructor. NTCC upholds the highest standards of academic integrity. This course will follow the NTCC Academic Honesty policy stated in the Student Handbook."

Conduct of Course**Attendance Policy**

Regular and punctual attendance at all scheduled classes is expected. Attendance is necessary for successful completion of course work. If you are absent, you are responsible for initiating procedures for make-up work. All course work missed, regardless of cause, is to be completed to the satisfaction of the instructor. Every time the student comes late to class will be adding deduction points into his final grade. *More than three absences is considered excessive!* It is up to you to initiate a drop in the Office of Admissions and Records. (At the discretion of the instructor, a student with no more than two absences and with an "A" average will be exempt from the final exam.)

Academic Ethics

The college expects all students to engage in academic pursuits in a manner that is beyond reproach. Students are expected to maintain complete honesty and integrity in their academic pursuit. Academic dishonesty such as cheating, plagiarism, and collusion is unacceptable and may result in disciplinary action. Refer to the student handbook for more information on this subject.

ADA Statement:

It is the policy of NTCC to provide reasonable accommodations for qualified individuals who are students with disabilities. This College will adhere to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to arrange an appointment with a College counselor to obtain a Request for Accommodations form. For more information, please refer to the NTCC Catalog or Student Handbook.

Family Educational Rights And Privacy Act (FERPA):

The Family Educational Rights and Privacy Act (FERPA) is a federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. FERPA gives parents certain rights with respect to their children's educational records. These rights transfer to the student when he or she attends a school beyond the high school level. Students to whom the rights have transferred are considered "eligible students." In essence, a parent has no legal right to obtain information concerning the child's college records without the written consent of the student. In compliance with FERPA, information classified as "directory information" may be released to the general public without the written consent of the student unless the student makes a request in writing. Directory information is defined as: the student's name, permanent address and/or local address, telephone listing, dates of attendance, most recent previous education institution attended, other information including major, field of study, degrees, awards received, and participation in officially recognized activities/sports.

Other Course Policies:

LOCKERS AND TOOLS BOXES AT THE END OF EACH SEMESTER

Each student has to clean up his/her own locker, take all personal items out the locker box and return ALL WELDING TOOLS. IF ANY WELDING TOOL IS MISSING, HE/SHE WILL NOT RECEIVE A FINAL GRADE UNTILL ALL THEM ARE RETURNED BACK AS THEY WERE ISSUED AT THE BEGINNING OF THE SEMESTER.

Class recognition certificates may be distributed at the end of the course. The awarding of such certificate is at the sole discretion of the instructor.

I HAVE READ THE SYLLABUS FOR THIS COURSE AND UNDERSTAND WHAT IS REQUIRED TO PASS. I UNDERSTAND THE EVALUATION AND GRADING POLICIES IN THIS COURSE.

I WILL FOLLOW ALL SAFETY AND CLASSROOM POLICIES BOTH WRITTEN AND VERBAL.

ALL QUESTIONS I HAD WERE ANSWERED BY THE INSTRUCTOR TO MY SATISFACTION.

COURSE WLDG 1417.

Student Signature

Date