Introduction to Pipe Welding WLDG-1435

Course Syllabus: Spring 2017

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

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Office Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Online
	2:30-5:00pm	2:30-5:00pm	2:30-5:00pm	2:30-5:00pm		

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 1435: Four hours credit. An introduction to welding of pipe using the shielded metal arc welding process (SMAW), including electrode selection, equipment setup, and safe shop practices. Emphasis on weld positions 1G and 2G using various electrodes. Additional course fee: $65.00. Two hours lecture and 5 hours lab each week.

Required Textbook(s):
Basic Principles and Applications, 8th edition, by Larry Jeffus.

Publisher: Delmar, Cengage Learning
ISBN Number: 978-1-111-03917-2. ISBN-10: 1-111-03917-8

Recommended Reading(s): Chapters: 2-(Safety), 3-(WLDG-Theory), 6-7-(WLDG set up and operation)

Required Textbook(s):
THE PIPE FTTR'S AND PIPE WELDER'S HANDBOOK. THE PIPE FTTR'S AND PIPE WELDER'S HANDBOOK (Revised edition), by Thomas W. Frankland

Publisher: Glencoe McGraw-Hill
ISBN Number: 0-02-802500-8

Recommended Reading: None

Student Learning Outcomes:
Describe equipment and required pipe preparation and perform 1G, 2G, and 5G welds using various electrodes.

Exemplary Educational Objectives: N/A

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
3502.00	**API Standard 1104 Welding of Pipe lines (F1, F5, F14, C9, C14, C18, C20)**
3502.01	Discuss three general categories of pipe welds, including how they are used and what type of weld root penetration and strength they required
3502.02	Explain the importance of Joint Preparation, Pipe End Cleaning, and Welding the Root Pass
3502.03	Compare pipe to tubing
3502.04	Discuss the preparation needed before welding pipe
3502.05	Explain the importance of not having arc strikes outside of the weld groove on pipe welds
3502.06	Explain the purpose of a hot pass
3502.07	Discuss the Root Pass Troubleshooting, and Techniques for Welding Hot Pass
3502.08	Discuss the Techniques for Welding Fill and Cap, Setting the Current, and Preventing Cracking
3503.00	**SMAW and GTAW Procedures for Pipe Welding (F1, F11, F15, F17, C9, C15, C18, C19, C20)**
3503.01	Describe the purpose of the root, filler and the cover passes for a pipe weld.
3503.02	Describe the vertical fixed position and give advantages and disadvantages
3503.03	Discuss how to make a weld in the horizontal fixed position
3503.04	Demonstrate welding Inspections, according to A.W.S.D. 1.1
3503.05	Discuss Gas Tungsten Arc Welding of Pipe in 2G. 5G
3503.06	Discuss Shielded Metal Arc Welding of Pipe 2G, 5G
3503.07	Demonstrate the ability in welding in the 2G and 5G positions, with the SMAW and the GTAW process on Pipe
3503.08	Demonstrate the ability of interpreting blueprints and fitting tubes
3503.09	Demonstrate the ability in interpreting and writing Procedure Qualifications Reports for different welding process

Competencies/tasks.

STUDENT NAME	**ORANGE PEEL**	**2G & 5G Pipe size6"-12", Schedule 40-80**			**5G Pipe size6"-12", Schedule 40-80**		**FINAL TEST**
	E6010X1/8" ROOT, 3/32" 0R 1/8" FILLER & CAP PASSES E7018, 3/32 & 1/8	E6010X1/8" ROOT, 3/32" 0R 1/8" FILLER & CAP PASSES E7018, 3/32 & 1/8			E6010X1/8" ROOT, 3/32" 0R 1/8" FILLER & CAP PASSES E7018, 3/32 & 1/8		E6010X1/8" ROOT, 3/32" 0R 1/8" FILLER & CAP PASSES E7018, 3/32 & 1/8
		2G	5G DOWN CROSS COUNTRY	5G	5G DOWN CROSS COUNTRY	5G UP -HILL	5G UP -HILL

Evaluation/Grading Policy:

The grades you will receive for this class will be based upon these areas:

A	**Test and Quizzes:**	**Hands-on Lab Practices**	**20%**
B.	**Review Questions:**	**At the end of each unit**	**10%**
C.	**General Work Habits:**	**Safety, use of lab time, materials, and**	**10%**

Care of equipment.

D. Mid-term Test: Units 22-23 Welding Codes and Standards Written test 10%

E. Final Test: Hands-on Lab 2G Positions Final Test 50%

F. Total: 100%

Tests/Exams:

The final exam will be a practical exam in accordance with API 1104 Code for Pipe Welding and count as 50% of the final grade. The final exam shall be a visual evaluation and a destructive exam of a pipe weld in the 2G fixed positioned. These welds shall be evaluated by the instructor and a visual grade shall be assigned to the root and the cover pass the student shall cut 4 straps and bend 2 exposing the root and 2 exposing the cover pass.

Other Course Requirements:

Each student is required to have the 2nd welding toolkit AND steel toe boots for this course. If the student does not purchase this from the bookstore they will be required to provide the necessary equipment.

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.

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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:

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 and10 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 nor 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:
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

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 ALLTHEM ARE RETURNED BACK AS THEY WERE ISSUED AT THE BEGINNING OF THE SEMESTER.

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 1435.

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Student Signature Date