



Course Title: WELDING FUNDAMENTALS I

Course #: WLD101-8

Credit Hours: 3

Semester: Spring 2022

Cap: 10

Faculty: Lorenzo Gurule

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Office: NTU BWTC Room 115

Office Phone: 505-417-6628

Office Hours: By appointment only.

Preferred Communication: email and/or text; will respond within 24 hours

Modality: Face-to-Face

Class Location and Meeting Times: BWTC 115 & Welding Lab; MON & TUE 11:15AM-12:45AM

Required Materials

Textbook: Oxyfuel Welding, Cutting and Brazing, EW-480 Technical Guide 2018 Hobart Institute of Welding Technology, ISBN 978-1-936058-17-4; \$26.88

Tools: Must have: Safety glasses, Striker, Tip cleaner, Locking Vice grips, 25' Measuring tape Soapstone holder w/soapstone markers, welding gloves, cutting goggles, Welding Jacket, Welding cap, and steel toe work boots. Tools & apparels can be purchased from Dr. Nez at BWTC and will be charged to your Student Account.

Laptop and Internet Access: Every student is required to own a laptop and have internet access.

Lab/Course Fee: \$35.00

Mission, Vision, and Philosophy

Mission: Navajo Technical University honors Diné culture and language, while educating for the future.

Vision: Navajo Technical University provides an excellent educational experience in a supportive, culturally diverse environment, enabling all community members to grow intellectually, culturally, and economically.

Philosophy: Through the teachings of Nitsáhákees (thinking), Nahátá (planning), Íína (implementing), and Siíhasin (reflection), students acquire quality education in diverse fields, while preserving cultural values and gaining economic opportunities.

Course Description: Development of basic skills, safety, and communication in Oxyfuel cutting (OFC), Oxyfuel welding (OFW), Braze Welding (BW), In accordance with the American Welding Society (AWS) entry level will be covered.

Course Outcomes	Course Assessments
Students will be able to safely and correctly weld in the flat, horizontal, vertical, and overhead positions.	Lab observations and practical welding applications.
Students will be able to demonstrate a strong understanding of welding beads with various patterns.	Written assignments, course readings, and practical welding applications.
Students will be able to demonstrate an understanding of the difference between OFC, OFW and BW	Course readings, lab work and observations, and quizzes.

Students will be able to demonstrate an understanding of modes of metal transfer for welding applications.	Course readings, quizzes, and lab welding applications.
Students will have a strong understanding of welding safety procedures and terminology.	Written assignments, quizzes, hands on performance in a lab setting.
Students will be able to correctly adjust settings of and use Oxyacetylene equipment.	Practical welding applications and class/lab observations.
Students will display an ability to communicate using correct welding terminology.	Assignments and hands on projects.
Students will be able to correctly and safely perform oxyfuel cutting, welding, Brazing and metal fabrication.	Reading assignments, written work, quizzes, and practical lab work.

Connections to Program Assessment (Course-Embedded Measures)

Complete reading assignments, Homework assignments, exams, Projects, and quizzes. At the start of class, a quiz issued for homework assignments, passing mark of 70 required to spend remaining class time in the welding lab. Less than 70 No Welding lab time.

Course Activities

Week	Date	Class Topics/Reading Due	Assignments Due	Assessments
	Jan 17	Martin Luther King Day		
1	Jan 17 - 21	Chapter 1 Introduction to Oxyacetylene Welding, Cutting, & Brazing Chapter 2 Oxyfuel Safety Terms & Acronyms found in 1 & 2	Reading & Quiz 1 & 2	Quiz Jan 24
	Jan 19 - 20	Late Registration w/fee		
	Jan 21	Last day to add/drop w/out "W"		
2	Jan 24 - 28	Chapter 3 Welder Training & Qualifications Chapter 4 Principles of Operation Terms & Acronyms found in 3 & 4	Reading & Quiz 3 & 4	Quiz Jan 31
3	Jan 31 Feb 4	Chapter 5 Equipment for Oxyfuel Welding, Cutting, & Brazing Chapter 6 Equipment Set up & Shutdown Terms & Acronyms found in 5 & 6	Reading & Quiz 5 & 6	Quiz Feb 7
4	Feb 7 - 11	Chapter 7 Oxyfuel Gases Chapter 8 Filler Metals & Fluxes Terms & Acronyms found in 7 & 8	Reading & Quiz 7 & 8	Quiz Feb 14
5	Feb 14 - 18	Chapter 9 Welding, Cutting and Brazing Applications Terms & Acronyms found in 9	Reading & Quiz 9	Quiz Feb 21
	Feb 21	HOLIDAY Presidents Day		
6	Feb 21 - 25	Chapter 10 Welding Metallurgy Terms & Acronyms found in 10	Reading & Quiz 10	Quiz Feb 28
	Feb 25	Spring 2022 Graduation Petitions Due		
7	Feb 28 Mar 4	Review Chapters 1 - 10	Review 1 - 10	
8	Mar 7 - 11	Mid Term Exams	Midterm	
	Mar 11	Midterm grades due		
9	Mar 14 - 18	Spring Break Chapter 11 Weld & Joint Design Terms & Acronyms found in 11	Reading & Quiz 11	Quiz March 21
10	Mar 21 - 25	Chapter 12 Oxyacetylene Welding (OFW-A) Procedure Variables Terms & Acronyms found in 12	Reading & Quiz 12	Quiz April 28

	Mar 31	Last Day to Withdraw w/ "W"		
11	Mar 28 Apr 1	Chapter 13 Oxyfuel Cutting (OFC) Procedure Variables Terms & Acronyms found in 13	Reading & Quiz 13	Quiz April 4
12	Apr 4 – 8	Chapter 14 Braze Welding (BW) Procedure Variables Terms & Acronyms found in 14	Reading & Quiz 14	Quiz April 11
13	Apr 11 - 15	Chapter 15 Torch Brazing (TB) Procedure Variables Terms & Acronyms found in 15	Reading & Quiz 15	Quiz April 18
14	Apr 18 - 22	Chapter 16 Post weld Procedure Terms & Acronyms found in 16	Reading & Quiz 16	Quiz April 25
15	Apr 25 - 29	Review Chapters 11 – 16	Review 11 - 16	
16	May 2 - 6	Lab practice for Performance Final		
17	May 10-13	Final Exams	Final Exams	
	May 13	Grades due to the Registrar		
	May 14	Spring Graduation		

Schedule Disclaimer: The course schedule outlined in the table above is subject to adjustment depending on the needs of the class to focus more on a specific chapter.

Grading Plan

Homework/Lab work: 20%	A = 100-90%
Participation/Attendance: 10%	B = 89-80%
Quizzes: 20%	C = 79-70%
Mid-term: 25%	D = 69-60%
Final Exam: 25%	F = 59% or less

Grading Policy

Students must do their own work. Cheating and plagiarism are strictly forbidden. Cheating includes (but is not limited to) plagiarism, submission of work that is not one's own, submission or use of falsified data, unauthorized access to exams or assignments, use of unauthorized material during an exam, or supplying or communicating unauthorized information for assignments or exams.

Participation

Students are expected to attend and participate in all class activities. Points will be given to students who actively participate in class activities including guest speakers, field trips, laboratories, and all other classroom events.

Cell phone and headphone use

Please turn cell phones off **before** coming to class. Cell phone courtesy is essential to quality classroom learning. Headphones must be removed before coming to class.

Attendance Policy

Students are expected to attend all class sessions. A percentage of the student's grade will be based on class attendance and participation. Absence from class, regardless of the reason, does not relieve the student of responsibility to complete all course work by required deadlines. Furthermore, it is the student's responsibility to obtain notes, handouts, and any other information covered when absent from class and to arrange to make up any in-class assignments or tests if permitted by the instructor. Incomplete or missing assignments will necessarily affect the student's grades. Instructors will report excessive and/or unexplained absences to the Counseling Department for investigation and potential intervention. **Instructors may drop students from the class after three (3) absences unless prior arrangements are made with the instructor to make up work and the instructor deems any excuse**

acceptable.

Study Time Outside of Class for Face-to-Face Courses

For every credit hour in class, a student is expected to spend two hours outside of class studying course materials.

Study Time for Hybrid or Blended Courses

For a hybrid or blended course of one credit hour, a student is expected to spend three hours per week studying course materials.

Study Time for Online Courses

For an online course of one credit hour, a student is expected to spend four hours per week studying course materials.

Academic Integrity

Integrity (honesty) is expected of every student in all academic work. The guiding principle of academic integrity is that a student's submitted work must be the student's own. Students who engage in academic dishonesty diminish their education and bring discredit to the University community. Avoid situations likely to compromise academic integrity such as: cheating, facilitating academic dishonesty, and plagiarism; modifying academic work to obtain additional credit in the same class unless approved in advance by the instructor, failure to observe rules of academic integrity established by the instructor. **The use of another person's ideas or work claimed as your own without acknowledging the original source is known as plagiarism and is prohibited.**

Diné Philosophy of Education

The Diné Philosophy of Education (DPE) is incorporated into every class for students to become aware of and to understand the significance of the four Diné philosophical elements, including its affiliation with the four directions, four sacred mountains, the four set of thought processes and so forth: Nitsáhákees, Nahát'á, Íina and Siih Hasin which are essential and relevant to self-identity, respect and wisdom to achieve career goals successfully.

At NTU's Zuni Campus, the **A:shiwí Philosophy** of Education offers essential elements for helping students develop Indigenous and Western understandings. Yam de bena: dap haydoshna: akkya hon detsemak a:wannikwa da: hon de:tsemak a:ts'umme. *Our language and ceremonies allow our people to maintain strength and knowledge.* A:shiwí core values of hon i:yyułashik'yanna:wa (respect), hon delank'oha:willa:wa (kindness and empathy), hon i:yyayumola:wa (honesty and trustworthiness), and hon kohoł lewuna:wediyahnan, wan hon kela i:tsemanna (think critically) are central to attaining strength and knowledge. They help learners develop positive self-identity, respect, kindness, and critical thinking skills to achieve life goals successfully.

Students with Disabilities

Navajo Technical University is committed to serving all students in a non-discriminatory and accommodating manner. Any student who feels that she or he may need special accommodations should contact the Accommodations Office (<http://www.navajotech.edu/student-services#accomodations-services>) in accordance with the university's Disability Accommodations Policy (see http://www.navajotech.edu/images/about/policiesDocs/Disability_ Exhibit-A_ 6-26-2018.pdf).

Email Address

Students are required to use NTU's email address for all communications with faculty and staff.

Final Exam Date: May 9-10, 2022.