HORRY GEORGETOWN TECHNICAL COLLEGE

INSTRUCTIONAL PACKAGE

WLD 134

Inert Gas Welding Non-Ferrous

SUMMER 2019

INSTRUCTIONAL PACKAGE

PART I: COURSE INFORMATION

Effective Term: Summer 2018-30

COURSE PREFIX: WLD-134 COURSE TITLE: Inert Gas Welding Non-Ferrous

CONTACT HOURS: 7.0 CREDIT HOURS: 3.0

RATIONALE FOR THE COURSE:
WLD 134 is a required course in the Advanced Welding Technology Program. WLD 134 will cover safety procedures and welding techniques associated with the Gas Tungsten Arc Welding, Gas Metal Arc Welding of Nonferrous metals.

COURSE DESRIPTION
WLD 134 – Inert Gas Welding Non-Ferrous
This course covers fundamental techniques for welding non-ferrous metals.

PREREQUISITES/CO-REQUISITES: WLD-111
*__Online/Hybrid__ courses require students to complete the DLi Online Student Orientation prior to completing an online course. The DLi Online Student Orientation can be found in WaveNet, under the My Student tab.

REQUIRED MATERIALS:
Textbook required (Welding Principles and Applications 8th edition By Larry Jeffus).
Welding Equipment tool kit..
Please visit the Bookstore online site for most current textbook information. Use the direct link below to find textbooks.
BOOKSTORE.

Enter the semester, course prefix, number and section when prompted and you will be linked to the correct textbook.

ADDITONAL REQUIREMENTS: Basic writing supplies, computer access on and off campus. You must be able to have access to D2L and check it regularly. I will use this platform to communicate with you regarding classroom conversations, schedule and more. Class cancellation, assignment due dates and class updates will always be posted on D2L.

TECHNICAL REQUIREMENTS:
Access to Desire2Learn (D2L), HGTC's student portal for course materials.
WaveNet and D2L email access.

STUDENT IDENTIFICATION VERIFICATION
Students enrolled in online courses will be required to participate in a minimum of one (1) proctored assignment and/or one (1) virtual event to support student identification verification. Please refer to your Instructor Information Sheet for information regarding this requirement.

CLASSROOM ETIQUETTE:
No cell phones, iPads or computers unless instructed to use them for a project in class. You will be asked to leave if you can't abide by these rules, and if you are asked to leave, it will be counted as a half absence.

PART II: STUDENT LEARNING OUTCOMES

COURSE LEARNING OUTCOMES and ASSESSMENTS*:

1. During all laboratory periods each student will apply the safety procedures associated with welding, cutting, and related activities as described in the ANSI Z49.1 Safety in Welding, Cutting.
2. Each student will perform safety inspections of their personal protective equipment and clothing, welding equipment and accessories, required tools and the work area prior to beginning lab activities.
3. Make minor repairs to gas tungsten, gas metal welding equipment and accessories.
4. Set up for gas tungsten, gas metal arc welding operations.
5. Clean and prepare base metal for welding.
6. Set the welding machine on the correct polarity for Gas Tungsten, Gas Metal Arc Welding.
7. Produce bead pad and fillet welds on Stainless Steel and Aluminum in the flat, horizontal, vertical and overhead positions using ER308/G.T.A.W, ER4043/ G.M.A.W, Filler metal.

Fillet welds to be evaluated by visual inspection methods to comply with American Welding Society weld inspection standards.

<u>Without the use of references, each student will accomplish the following objectives with a minimum of 90% accuracy.</u>

8. Identify safety hazards associated with gas tungsten arc welding and related operations.
9. Identify and explain welding electrical current.
10. Identify and explain Gas Tungsten, Gas Metal arc welding machines.
11. Explain setting up of Gas Tungsten, Gas Metal welding equipment.
12. Identify and explain tools for weld cleaning.

13. Identify and explain AWS/ASME filler metal classification system.
14. Identify and explain different types of filler metal.
15. List the purpose of clean base metal.
16. Identify and explain the relationship of filler metal classification to welding current.
17. Explain considerations for selecting electrodes.
18. Explain the storage and control of filler metals.
19. Explain filler metal traceability requirements.
20. Explain how to use applicable code requirements.
21. Explain the effects of the following variables/essentials on a weld:
22. List and explain Tungsten types color codes and sizes.
23. Explain the shielding gases used in Gas Tungsten, Gas metal Arc welding.

* Amperage
* Volts
* Speed of Travel
* Tungsten Length
* Electrode Stick out * Torch Angle* Travel/Lead Angle* Torch nozzle size

RECOMMENDED READING AND LAB ASSIGNMENTS:

(Instructor may modify schedule as required to meet the course objectives)

Welding Principles and Applications, Textbook

Section Four: Gas Shielded Arc Welding
Read Chapter 16: Gas Tungsten Arc Welding equipment, Setup, Operation, Filler Metals.
Read Chapter 17: Gas Tungsten Arc Welding Plate.
Aluminum G.M.A.W Hand Out

Week 1 Orientation

Week 2 -3 Flat, Horizontal, Bead Pad, lap joint welds G.T.A.W. Process ER308 and ER4043 Fillers
Free hand and Walking the Cup Technique

Week 3 **Test:** Flat, Horizontal

Week 4 - 5 Vertical, Overhead, Bead Pad welds G.T.A.W. Process ER308 and ER4043 Fillers. Free Hand Walking the Cup Technique

Week 5 **Test:** Vertical, Overhead

Week 5- 10 Horizontal, Vertical and Over Head Tee Joints welds G.T.A.W. Process
ER308 and ER4043 Filler, 1/4 inch Fillet Welds
Free hand and Walking the Cup Technique

Week 10 **Test:** Horizontal, Vertical and Overhead
Flat, Horizontal, Vertical Tee Joints G.M.A.W. Process
ER4043 Filler 3/8 inch Fillet welds
Test: Flat, Horizontal, Vertical and Overhead
G.M.A.W.

Students – please refer to the Instructor's Course Information sheet for specific information on assessments and due dates.

PART III: GRADING AND ASSESSMENT

EVALUATION OF REQUIRED COURSE MEASURES/ARTIFACTS*
Students' performance will be assessed and the weight associated with the various measures/artifacts are listed below.

EVALUATION*
Lab Tests 100%

Students, for the specific number and type of evaluations, please refer to the Instructor's Course Information Sheet.

GRADING SYSTEM:

State the College's or departmental grading system as delineated in the Catalog. Please note the College adheres to a 10 point grading scale A = 100 – 90, B = 89- 80, C = 79 – 70, D = 69 – 60, F = 59 and below. You must have your Dean's approval if changes in the scale are made.

Grades earned in courses impact academic progression and financial aid status. Before withdrawing from a course, be sure to talk with your instructor and financial aid counselor about the implications of that course of action. Ds, Fs, Ws, WFs and Is also negatively impact academic progression and financial aid status.

The Add/Drop Period is the first 5 days of the semester for **full term** classes. Add/Drop periods are shorter for accelerated format courses. Please refer to the academic calendar for deadlines for add/drop (ACADEMIC CALENDAR). You must attend at least one meeting of all of your classes during that period. If you do not, you will be dropped from the course(s) and your Financial Aid will be reduced accordingly.

PART IV: ATTENDANCE

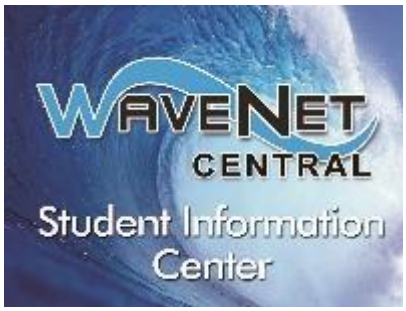
Horry-Georgetown Technical College maintains a general attendance policy requiring students to be present for a minimum of eighty percent (80%) of his or her classes in order to be eligible to receive credit for any course. However, due to the varied nature of courses taught at the College, a more rigid attendance policy may be required by individual instructors. At a minimum, a student may be withdrawn from a course(s) after he or she has been absent in excess of ten percent (10%) of the total contact hours for a course. **Instructors define absentee limits for their class at the beginning of each term; please refer to the Instructor Course Information Sheet.**

For online and hybrid courses, check your Instructor's Course Information Sheet for any required on-site meeting times. Please note, instructors may require tests to be taken at approved testing sites, if you use a testing center other than those provided by HGTC, the center may charge a fee for its services.

Part V: Student Resources

The Student Success and Tutoring Center (SSTC)
The SSTC offers to all students the following **free** resources:
1. Academic coaches for most subject areas, **Writing Center Support**, and **college success skills.**

2. On-line student success and academic support resources. Visit the SSTC website: Student Success & Tutoring Center and visit the student services tab in your WaveNet account to schedule appointments using TutorTrac. For more information, call: SSTC Conway, 349-7872; SSTC Grand Strand, 477-2113; and SSTC Georgetown, 520-1455. Room locations and Live Chat is available on the SSTC website.



Student Information Center: WaveNet Central (WNC)
WNC offers to all students the following **free** resources:
1. **Getting around HGTC**: General information and guidance for enrollment!
2. Use the **Online Resource Center (ORC)** for COMPASS support, technology education, and online tools.
3. **Drop-in technology support or scheduled training** in the Center or in class.
4. **In-person workshops, online tutorials and more services** are available.

Visit the WNC website: Wavenet Central. Live Chat and Center locations are posted on the website. Or please call one of the following locations: WNC Conway, 349-5182; WNC Grand Strand, 477-2076; and WNC Georgetown, 520-1473.

The **Instructor Information Sheet** will have more details on test requirements for your course.

Disability Services:

HGTC is committed to providing an accessible environment for students with disabilities. Inquiries may be directed to Jocelyn Williams, Director of Student Development on the Conway Campus Jaime Davis, Counselor/Advisor on the Georgetown Campus or Kristin Griffin, Counselor on the Grand Strand Campus. These individuals will review documentation of the student's disability and, in a confidential setting with the student, develop an educational accommodation plan.

Note: It is the student's responsibility to self-identify as needing accommodations and to provide acceptable documentation. After a student has self-identified and submitted documentation of a disability, accommodations may be determined, accepted, and provided

Statement of Equal Opportunity/Non-Discrimination Statement

Horry Georgetown Technical College prohibits discrimination and harassment, including sexual harassment and abuse, on the basis of race, color, gender, national or ethnic origin, age, religion, disability, marital status, veteran status, sexual orientation, gender identity, or pregnancy in educational programs and/or activities.

Title IX Requirements

Horry Georgetown Technical College prohibits the offenses of domestic violence, dating violence, sexual assault, and stalking. Any student who believe he or she has experienced or witnessed discrimination including sexual harassment, domestic violence, dating violence, sexual assault or stalking is encouraged to report such incidents to one of the College's Title IX Coordinators.

> *Faculty and Staff are required to report incidents to the Title IX Coordinators when involving students. The only HGTC employees exempt from mandatory reporting are licensed mental health professionals (only as part of their job description such as counseling services).

Inquiries regarding the non-discrimination policies:	
Student and prospective student inquiries concerning Section 504, Title II, and Title IX and their application to the College or any student decision may be directed to the Associate Vice President for Student Affairs.	Employee and applicant inquiries concerning Section 504, Title II, and Title IX and their application to the College may be directed to the Associate Vice President for Human Resources.
Dr. Melissa Batten, AVP Student Affairs *Title IX Coordinator* Building 1100, Room 107A, Conway Campus PO Box 261966, Conway, SC 29528-6066 843-349-5228 Melissa.Batten@hgtc.edu	**Jacquelyne Snyder, AVP Human Resources** *Section 504, Title II, and Title IX Coordinator* Building 200, Room 212A, Conway Campus PO Box 261966, Conway, SC 29528-6066 843-349-5212 Jacquelyne.Snyder@hgtc.edu