Instructional Services · Material Science · Welding

Advance Gas Metal Arc Mig Weld-17720

WLDG-2447

F8B 2022   Section 0208   4 Credits   03/21/2022 to 05/15/2022   Modified 03/20/2022

🕐 Course Meetings

Course Modality

Face to Face in person

Meeting Days

Monday and Wednesdays   Meeting Times

8:00 am to 12:00 pm

Meeting Location

Workforce Building II Room 125

👤 Welcome and Instructor Information

Welding Instructor: Mr. Samuel Sutton

Email: samuel.sutton@hccs.edu
Office: Eastside Campus Work Force Building II

What's Exciting About This Course

This course is exciting because...

My Personal Welcome

Welcome to the course!

Preferred Method of Contact

I will respond to emails within 24 hours Monday through Friday; I will reply to weekend messages on Monday mornings.

Office Hours

Monday, Tuesday, Wednesday, Thursday, 1:00 PM to 3:00 PM

🖥 Course Overview

This course covers advanced principles of welding with emphasis on special processes and special needs of students.

Requisites

Prerequisites: WLDG 1407, WLDG 1428, and WLDG 1457

In this course, we will spend all of our welding lab time practicing our Gas Metal Arc Welding and Flux Cored Arc Welding using ER70S-6 and E71T-3 filler wire. I will be using the American Welding Society (AWS), D1.1 Structural welding code, acceptance criteria, to review and grade your welds.

◎ Core Curriculum Objectives (CCOs)

- *Critical Thinking*: Students will be able to identify types of electrodes used in welding processes, and identify various welding and cutting
- *Communication Skills*: Students will demonstrate understanding through demonstration of basic welding
- *Quantitative and Empirical Literacy*: Students will demonstrate the ability to set up and calibrate different welding machines, perform entry level welding functions, and have knowledge of proper joint preparation techniques by completing textbook reading assignments, completing assignments, and answering questions on quizzes and exams.
- *Social Responsibility*: Students will demonstrate basic shop safety, and identify types of consumables used in welding processes

📊 Student Learning Outcomes and Objectives

1. Students will be able to: setup GMAW/FCAW equipment,
2. select proper filler metal for application,
3. discuss weld quality,
4. perform GMAW/FCAW in the flat, horizontal, vertical, and overhead position

https://www.hccs.edu/programs/areas-of-study/construction-industry--manufacturing/welding-technology/

☰ Departmental Practices and Procedures

As your Instructor, it is my responsibility to:

- Provide the grading scale and detailed grading formula explaining how student grades are to be derived
- Facilitate an effective learning environment through learner-centered instructional techniques
- Provide a description of any special projects or assignments
- Inform students of policies such as attendance, withdrawal, tardiness, and make up
- Provide the course outline and class calendar which will include a description of any special projects or assignments
- Arrange to meet with individual students before and after class as required
- Provide Welding Demonstrations
- Maintain a safe working environment in the welding lab.

As a student, it is your responsibility to:

- Attend class in person and/or online
- Participate actively by reviewing course material, interacting with classmates, and responding promptly in your communication with me
- Read and comprehend the textbook
- Complete the required assignments and exams
- Ask for help when there is a question or problem
- Keep copies of all paperwork, including this syllabus, handouts, and all assignments
- Attain a raw score of at least 50% on the departmental final exam
- Be aware of and comply with academic honesty policies in the HCCS Student Handbook
- Wear all required personal protective equipment while in the welding lab.

📙 Instructional Materials and Resources

Instructional Materials

The [HCC Online Bookstore (https://hccs.bncollege.com/shop/hccs-central/page/find-textbooks)](https://hccs.bncollege.com/shop/hccs-central/page/find-textbooks) provides searchable information on textbooks for all courses. Check with your instructor before purchasing textbooks because the book might be included in your course fees.

Add Instructional Materials Here

Temporary Free Access to E-Book

Here is the link to get temporary free access to a digital version of the text for fourteen days:

<< [add link] >>

Other Instructional Resources

Courseware

Content here...

Welding: Principles and Applications

Author: Larry Jeffus
Publisher: Cengage
Edition: Latest
ISBN: 978-0357377659
Optional
Availability: Campus Bookstore
Price: 180.00

✔ Course Requirements

Assignments, Exams, and Activities

Type	Weight	Topic	Notes
Class Assignments	30	Class Assignments	Class assignments from Canvas and Miller Openbook
Welding Performance	70	Welding Performance Test	Welding performance test for 1G, 2G, 3G, and 4G structural plate
Written Assignment			Describe the assignment here.
Exams/Quizzes			Describe the assignment here.
In-Class Activities			Describe the assignment here.
Final Exam			Describe the assignment here.
Extra Credit			Describe the assignment here.

Grading Formula

Grade	Range	Notes
A		

Grade	Range	Notes
B		
C		
D		
F		

✱ Instructor's Practices and Procedures

Incomplete Policy

In order to receive a grade of Incomplete ("I"), a student must have completed at least 85% of the work in the course. In all cases, the instructor reserves the right to decline a student's request to receive a grade of Incomplete.

Missed Assignments/Make-Up Policy

All assignments must be turned in on designated due dates/time

Academic Integrity

Here's the link to the HCC information about academic integrity (Scholastic Dishonesty and Violation of Academic Scholastic Dishonesty and Grievance):

https://www.hccs.edu/studentprocedures (https://www.hccs.edu/studentprocedures)

Attendance Procedures

100% attendance is expected. An instructor may drop a student who misses more than 3 instructional days.

Student Conduct

As your instructor and as a student in this class, it is our shared responsibility to develop and maintain a positive learning environment for everyone. Your instructor takes this responsibility very seriously and will inform members of the class if their behavior makes it difficult for him/her to carry out this task. As a fellow learner, you are asked to respect the learning needs of your classmates and assist your instructor achieve this critical goal.

Instructor's Course-Specific Information

Add Content Here

Devices

Please turn off all cell phones while in the classroom or lab.

Faculty Statement about Student Success

Expect to spend at least twice as many hours per week outside of class as you do in class studying the course content. Additional time will be required for written assignments. The assignments provided will help you use your study hours wisely. Successful completion of this course requires a combination of the following:

- Reading the textbook
- Attending class in person and/or online
- Completing assignments
- Participating in class activities

There is no short cut for success in this course; it requires reading (and probably re-reading) and studying the material using the course objectives as your guide

Faculty-Specific Information Regarding Canvas

This course section will use Canvas ([https://eagleonline.hccs.edu (https://eagleonline.hccs.edu)](https://eagleonline.hccs.edu)) to supplement in-class assignments, exams, and activities.

HCCS Open Lab locations may be used to access the Internet and Canvas. For best performance, Canvas should be used on the current or first previous major release of Chrome, Firefox, Edge, or Safari. Because it's built using web standards, Canvas runs on Windows, Mac, Linux, iOS, Android, or any other device with a modern web browser.

Canvas only requires an operating system that can run the latest compatible web browsers. Your computer operating system should be kept up to date with the latest recommended security updates and upgrades.

Social Justice Statement

Houston Community College is committed to furthering the cause of social justice in our community and beyond. HCC does not discriminate on the basis of race, color, religion, sex, gender identity and expression, national origin, age, disability, sexual orientation, or veteran status. I fully support that commitment and, as such, will work to maintain a positive learning environment based upon open communication, mutual respect, and non-discrimination. In this course, we share in the creation and maintenance of a positive and safe learning environment. Part of this process includes acknowledging and embracing the differences among us in order to establish and reinforce that each one of us matters. I appreciate your suggestions about how to best maintain this environment of respect. If you experience any type of discrimination, please contact me and/or the Office of Institutional Equity at 713-718-8271.

🏛 HCC Policies and Information

HCC Grading System

HCC uses the following standard grading system:

Grade	Grade Interpretation	Grade Points
A	Excellent (90-100)	4
B	Good (80-89)	3
C	Fair (70-79)	2
D	Passing (60-69), except in developmental courses.	1
F	Failing (59 and below)	0
FX	Failing due to non-attendance	0
W	Withdrawn	0
I	Incomplete	0
AUD	Audit	0

Grade	Grade Interpretation	Grade Points
IP	In Progress. Given only in certain developmental courses. A student must re-enroll to receive credit.	0
COM	Completed. Given in non-credit and continuing education courses.	0

Link to Policies in Catalog and Student Handbook

Here's the link to the HCC Catalog and Student Handbook: https://catalog.hccs.edu/ (https://catalog.hccs.edu/)

In it you will find information about the following:

- Academic Information
- Academic Support
- Attendance, Repeating Courses, and Withdrawal
- Career Planning and Job Search
- Childcare
- disAbility Support Services
- Electronic Devices
- Equal Educational Opportunity
- Financial Aid TV (FATV)
- General Student Complaints
- Grade of FX
- Incomplete Grades
- International Student Services
- Health Awareness
- Libraries/Bookstore
- Police Services & Campus Safety
- Student Life at HCC
- Student Rights and Responsibilities
- Student Services
- Testing
- Transfer Planning
- Veteran Services

Link to HCC Academic Integrity Statement

https://www.hccs.edu/student-conduct (https://www.hccs.edu/student-conduct) (scroll down to subsections)

Campus Carry Link

Here's the link to the HCC information about Campus Carry:

https://www.hccs.edu/campuscarry (https://www.hccs.edu/campuscarry)

HCC Email Policy

When communicating via email, HCC requires students to communicate only through the HCC email system to protect your privacy. If you have not activated your HCC student email account, you can go to HCC Eagle ID (https://www.hccs.edu/email) and activate it now. You may also use Canvas Inbox to communicate.

Office of Institutional Equity

Use the following link to access the HCC Office of Institutional Equity, Inclusion, and Engagement: https://www.hccs.edu/eeo (https://www.hccs.edu/eeo)

Ability Services

HCC strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including long and short term conditions, mental health, chronic or temporary medical conditions), please meet with a campus Abilities Counselor as soon as possible in order to establish reasonable accommodations. Reasonable accommodations are established through an interactive process between you, your instructor(s) and Ability Services. It is the policy and practice of HCC to create inclusive and accessible learning environments consistent with federal and state law. For more information, please go to https://www.hccs.edu/accessibility (https://www.hccs.edu/accessibility)

Title IX

Houston Community College is committed to cultivating an environment free from inappropriate conduct of a sexual or gender-based nature including sex discrimination, sexual assault, sexual harassment, and sexual violence. Sex discrimination includes all forms of sexual and gender-based misconduct and violates an individual's fundamental rights and personal dignity. Title IX prohibits discrimination on the basis of sex-including pregnancy and parental status in educational programs and activities. If you require an accommodation due to pregnancy please contact an Abilities Services Counselor. The Director of EEO/Compliance is designated as the Title IX Coordinator and Section 504 Coordinator. All inquiries concerning HCC policies, compliance with applicable laws, statutes, and regulations (such as Title VI, Title IX, and Section 504), and complaints may be directed to:

David Cross
Director EEO/Compliance
Office of Institutional Equity & Diversity
3100 Main
(713) 718-8271
Houston, TX 77266-7517 or Institutional.Equity@hccs.edu (mailto:Institutional.Equity@hccs.edu)

https://www.hccs.edu/titleix (https://www.hccs.edu/titleix)

Office of the Dean of Students

Contact the office of the Dean of Students to seek assistance in determining the correct complaint procedure to follow or to identify the appropriate academic dean or supervisor for informal resolution of complaints.

https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-complaints/speak-with-the-dean-of-students/ (https://www.hccs.edu/about-hcc/procedures/student-rights-policies--procedures/student-complaints/speak-with-the-dean-of-students/)

Student Success

Expect to spend at least twice as many hours per week outside of class as you do in class studying the course content. Additional time will be required for written assignments. The assignments provided will help you use your study hours wisely. Successful completion of this course requires a combination of the following:

- Reading the textbook
- Attending class in person and/or online
- Completing assignments
- Participating in class activities

There is no short cut for success in this course; it requires reading (and probably re-reading) and studying the material using the course objectives as a guide.

Canvas Learning Management System

Canvas is HCC's Learning Management System (LMS), and can be accessed at the following URL:

https://eagleonline.hccs.edu (https://eagleonline.hccs.edu)

HCCS Open Lab locations may be used to access the Internet and Canvas. For best performance, Canvas should be used on the current or first previous major release of Chrome, Firefox, Edge, or Safari. Because it's built using web standards, Canvas runs on Windows, Mac, Linux, iOS, Android, or any other device with a modern web browser.

Canvas only requires an operating system that can run the latest compatible web browsers. Your computer operating system should be kept up to date with the latest recommended security updates and upgrades.

HCC Online Information and Policies

Here is the link to information about HCC Online classes, which includes access to the required Online Information Class Preview for all fully online classes: https://www.hccs.edu/online/ (https://www.hccs.edu/online/)

Scoring Rubrics, Sample Assignments, etc.

Look in Canvas for the scoring rubrics for assignments, samples of class assignments, and other information to assist you in the course. https://eagleonline.hccs.edu/ (https://eagleonline.hccs.edu/)

Instructor and Student Responsibilities

As your Instructor, it is my responsibility to:

- Provide the grading scale and detailed grading formula explaining how student grades are to be derived
- Facilitate an effective learning environment through learner-centered instructional techniques
- Provide a description of any special projects or assignments
- Inform students of policies such as attendance, withdrawal, tardiness, and making up assignments
- Provide the course outline and class calendar that will include a description of any special projects or assignments
- Arrange to meet with individual students during office hours, and before and after class as required

As a student, it is your responsibility to:

- Attend class in person and/or online
- Participate actively by reviewing course material, interacting with classmates, and responding promptly in your communication with me
- Read and comprehend the textbook
- Complete the required assignments and exams
- Ask for help when there is a question or problem
- Keep copies of all paperwork, including this syllabus, handouts, and all assignments
- Be aware of and comply with academic honesty policies in the HCCS Student Handbook (https://www.hccs.edu/studenthandbook)

EGLS3

The EGLS[3] (Evaluation for Greater Learning Student Survey System (https://www.hccs.edu/egls3)) will be available for most courses near the end of the term until finals start. This brief survey will give invaluable information to your faculty about their teaching. Results are anonymous and will be available to faculty and division chairs after the end of the term. EGLS[3] surveys are only available for the Fall and Spring semesters. EGLS3 surveys are not offered during the Summer semester due to logistical constraints.

https://www.hccs.edu/egls3 (https://www.hccs.edu/egls3)

Housing and Food Assistance for Students

Any student who faces challenges securing their foods or housing and believes this may affect their performance in the course is urged to contact the Dean of Students at their college for support. Furthermore, please notify the professor if you are comfortable in doing so.

This will enable HCC to provide any resources that HCC may possess.

Student Resources

Tutoring

HCC provides free, confidential, and convenient academic support, including writing critiques, to HCC students in an online environment and on campus. Tutoring is provided by HCC personnel in order to ensure that it is contextual and appropriate. Visit the [HCC Tutoring Services (https://www.hccs.edu/tutoring)](https://www.hccs.edu/tutoring) website for services provided.

Libraries

The HCC Library System consists of 9 libraries and 6 Electronic Resource Centers (ERCs) that are inviting places to study and collaborate on projects. Librarians are available both at the libraries and online to show you how to locate and use the resources you need. The libraries maintain a large selection of electronic resources as well as collections of books, magazines, newspapers, and audiovisual materials. The portal to all libraries' resources and services is the HCCS library web page at [https://library.hccs.edu (https://library.hccs.edu/)](https://library.hccs.edu/).

Supplementary Instruction

Supplemental Instruction is an academic enrichment and support program that uses peer-assisted study sessions to improve student retention and success in historically difficult courses. Peer Support is provided by students who have already succeeded in completion of the specified course, and who earned a grade of A or B. Find details at [https://www.hccs.edu/supplemental-instruction (https://www.hccs.edu/supplemental-instruction)](https://www.hccs.edu/supplemental-instruction)

Resources for Students:

[https://www.hccs.edu/covid19students (https://www.hccs.edu/covid19students)](https://www.hccs.edu/covid19students)

Basic Needs Resources:

[https://www.hccs.edu/support-services/counseling/hcc-cares/basic-needs-resources/ (https://www.hccs.edu/support-services/counseling/hcc-cares/basic-needs-resources/)](https://www.hccs.edu/support-services/counseling/hcc-cares/basic-needs-resources/)

Student Basic Needs Application:

[https://www.hccs.edu/basicneeds (https://www.hccs.edu/basicneeds)](https://www.hccs.edu/basicneeds)

COVID-19

Here's the link to the HCC information about COVID-19:

[https://www.hccs.edu/covid-19 (https://www.hccs.edu/covid-19)](https://www.hccs.edu/covid-19)

Sensitive or Mature Course Content

In this college-level course, we may occasionally discuss sensitive or mature content. All members of the classroom environment, from your instructor to your fellow students, are expected to handle potentially controversial subjects with respect and consideration for one another's varied experiences and values.

Instructional Modalities

In-Person (P)

Safe, face-to-face course with scheduled dates and times

Online on a Schedule (WS)

Fully online course with virtual meetings at scheduled dates and times

Online Anytime (WW)

Traditional online course without scheduled meetings

Hybrid (H)

Course that meets safely 50% face-to-face and 50% virtually

Hybrid Lab (HL)

Lab class that meets safely 50% face-to-face and 50% virtually

Copyright Statement

In order to uphold the integrity of the academic environment and protect and foster a cohesive learning environment for all, HCC prohibits unauthorized use of course materials. Materials shared in this course are based on my professional knowledge and experience and are presented in an educational context for the students in the course. Authorized use of course materials is limited to personal study or educational uses. Material should not be shared, distributed, or sold outside the course without permission. Students are also explicitly forbidden in all circumstances from plagiarizing or appropriating course materials. This includes but is not limited to publically posting quizzes, essays, or other materials. This prohibition extends not only during this course, but after. Sharing of the materials in any context will be a violation of the HCC Student Code of Conduct and may subject the student to discipline, as well as any applicable civil or criminal liability. Consequences for unauthorized sharing, plagiarizing, or other methods of academic dishonesty may range from a 0 on the specified assignment and/or up to expulsion from Houston Community College. Questions about this policy may be directed to me or to the Manager of Student Conduct and Academic Integrity.

📅 Course Calendar

Syllabus Modifications

The instructor reserves the right to modify the syllabus at any time during the semester and will promptly notify students in writing, typically by e-mail, of any such changes.

📋 Additional Information

Departmental/Program Information

Add Content Here

Process for Expressing Concerns about the Course

If you have concerns about any aspect of this course, please reach out to your instructor for assistance first. If your instructor is not able to assist you, then you may wish to contact the Department Chair.

Structural Welding Certificate Course Requirements

- WLDG 1407 - Introduction to Welding Using Multiple Processes
- WLDG 1428 - Introduction to Shielded Metal Arc Welding
- WLDG 1413 - Introduction to Blueprint Reading for Welders
- WLDG 1457 - Intermediate Shielded Metal Arc Welding
- WLDG 2447 - Advance Gas Metal Arc Welding

Make sure to apply for graduation.

Combination Pipe Welding Requirements

WLDG 1407 - Introduction to Welding Using Multiple Processes

WLDG 1428 - Introduction to Shielded Metal Arc Welding

WLDG 1434 - Introduction to Gas Tungsten Arc Welding

WLDG 1413 - Introduction to Blueprint Reading for Welders

WLDG 1457 - Intermediate Shielded Metal Arc Welding

WLDG 2451 - Advance Gas Tungsten Arc Welding

WLDG 1435 - Intro to Pipe Welding

WLDG 2413 - Intermediate Welding Using Multiple Processes

WLDG 2453 - Advance Pipe Welding

Make sure to apply for graduation.

Welding Student Representative Information

Shaqwan Harris

shaqwan.harris2@hccs.edu

713/718-5133

Please contact Ms. Harris for assistance with courses, enrollment, and graduation.

Minimum Welding Tools Needed

Welding Hood
Leather Welding Gloves
Welding Sleeves or Welding Jacket
Chipping Hammer
Wire Brush
Clear Safety glasses
Welder Cloth Cap
Leather Work Boots
HCC Blue Welding Shirt
Work Denim Pants
Oxyfuel Tip Cleaner
12"Adjustable Wrench
4 1-2"Electric Grinder
4 -1/2" Grinding Wheels
25 Foot Tape Measure
Flint Lighter (Striker)

Locker Pliers
MIG Pliers