

Clarendon College
WLDG 2443 Advanced Shielded Metal Arc Welding (SMAW)

I. General Course Information

Mark Simmons,

Course Number: WLDG 2443

Course Title: Advanced Shielded Metal Arc Welding

Credit Hours: 2-8-4

Recommended Prerequisite: WLDG 1457 Intern SMAW or Instructor Approval

Course Description: Advanced topics based on accepted welding codes. Training provided with various electrodes in shielded metal arc welding processes with open V-groove joints in all positions.

End-of-Course Outcomes: Describe effects of preheating and post weld heating; explain precautions used when welding various metals and alloys; distinguish between qualification and certification procedures; and discuss problems of welding discontinuities. Perform open groove welds with low carbon steel and low alloy electrodes in all positions

A series of basic intellectual competencies--reading, writing, speaking, listening, critical thinking, and computer literacy--are essential to the learning process in any discipline and thus should inform any core curriculum. Although students can be expected to come to college with some experience in exercising these competencies, they often need further instruction and practice to meet college standards and, later, to succeed in both their major field of academic study and their chosen career or profession. This course will further develop the following basic intellectual competencies:

READING: Reading at the college level means the ability to analyze and interpret a variety of printed materials--books, articles, and documents. A core curriculum should offer students the opportunity to master both general methods of analyzing printed materials and specific methods for analyzing the subject matter of individual disciplines.

WRITING: Competency in writing is the ability to produce clear, correct, and coherent prose adapted to purpose, occasion, and audience. Although correct grammar, spelling, and punctuation are each a sine qua non in any composition, they do not automatically ensure that the composition itself makes sense or that the writer has much of anything to say. Students need to be familiar with the writing process including how to discover a topic and how to develop and organize it, how to phrase it effectively for their audience. These abilities can be acquired only through practice and reflection.

SPEAKING: Competence in speaking is the ability to communicate orally in clear, coherent, and persuasive language appropriate to purpose, occasion, and audience. Developing this competency includes acquiring poise and developing control of the

language through experience in making presentations to small groups, to large groups, and through the media.

LISTENING: Listening at the college level means the ability to analyze and interpret various forms of spoken communication.

CRITICAL THINKING: Critical thinking embraces methods for applying both qualitative and quantitative skills analytically and creatively to subject matter in order to evaluate arguments and to construct alternative strategies. Problem solving is one of the applications of critical thinking, used to address an identified task.

COMPUTER LITERACY: Computer literacy at the college level means the ability to use computer-based technology in communicating, solving problems, and acquiring information. Core-educated students should have an understanding of the limits, problems, and possibilities associated with the use of technology, and should have the tools necessary to evaluate and learn new technologies as they become available.

I. Objectives/Terminal Objectives

All Clarendon College courses work together to meet the following objectives:

1. Establish broad and multiple perspectives on the individual in relationship to the larger society and world in which he or she lives, and to understand the responsibilities of living in a culturally and ethnically diverse world;
2. Stimulate a capacity to discuss and reflect upon individual, political, economic, and social aspects of life in order to understand ways in which to be a responsible member of society;
3. Recognize the importance of maintaining health and wellness;
4. Develop a capacity to use knowledge of how technology and science affect their lives;
5. Develop personal values for ethical behavior;
6. Develop the ability to make aesthetic judgments;
7. Use logical reasoning in problem solving; and
8. Integrate knowledge and understand the interrelationships of scholarly disciplines.

In addition, the following objectives that are specific to Advanced Shielded Metal Arc Welding (SMAW) will be met:

Learning Outcomes.

1. Examine welding criteria contained in commonly used welding codes.
2. Analyze welds to code standards
3. Identify weld defects and develop weld repair procedures
4. Perform welds with high chrome filler metals
5. Perform welds with high nickel filler metals
6. Perform welds with Stainless Steel filler metals.

I. Textbook and Other Required Materials

ANSI, B31.1, API-1104, ASME Sect. 8-9 (Instructor Provided)

I. Classroom Policy and Instructor Expectations

Students are expected to conduct themselves in a manner that promotes a safe learning environment for all students. Students should participate in classroom and lab activities/discussions, complete assignments on time and be prompt to class.

The use of a cell phone during shop classes is restricted only to when an instructor is actively instructing the student. The student will be asked to turn off the phone during this period.

I. Additional/Supplemental References N/A

II. Methods of Evaluation

Evaluation Testing and Grade Distribution:

Classroom Discussion	10 points
Visual Welding Exam	10 points
Lab Exercise Repairs	20 points
Lab Exercise Chrome Weld	20 points
Lab Exercise Nickel Weld	20 points
Lab Exercise Stainless Weld	20 points
Total Points Possible 100	

Attendance = 70%

Exams = 30%

Grade Scale:

90 - 100	= A
80 - 89	= B
70 - 79	= C
60 - 69	= D
Below 60	= F

I. Attendance Requirements

Attendance at all class sessions is expected of all students. This is a significant part of instilling a good work ethic for future employers. For this reason if a student must be absent for any reason he/she will be required to notify a welding instructor(s) as soon as practical for each absence and its reason. If a student is absent from class for four unexcused absences they will be placed on the "Attendance Probation List" for the Welding Program. After six unexcused absences the student will be administratively withdrawn from the entire welding program.

Attendance Percentage		Grade
90 – 100	=	100
80 – 90	=	90
70 – 80	=	80
60 – 70	=	70
0 – 60	=	50

I. Scans/Or Core Competencies That Will Be Addressed in the Class

Information:

Acquires & Evaluates Information

Interpersonal:

Teaches Others

Negotiates to Arrive at a Decision

Systems:

Understands Systems

Monitor and Correct Performance

Technology:

Applies Technology

Basic Skills:

Reading

Thinking Skills:

Creative Thinking

Decision Making

Problem Solving

Reasoning

Personal Qualities:

Responsibility

Self-Management

I. Next Recommended Course in Sequence—N/A

II. Correlation to Stated Mission Goals of Clarendon College

- A. Provide general college academic course for students who plan to enter senior colleges and universities with junior standing.
- B. Provide a classroom setting that is conducive to learning.
- C. Provide, assist, and promote the use of learning resources.
- D. Participate in and contribute to the democratic society in which we live.
- E. Acquire skills, facts, values, and attitudes necessary to function and

contribute to our society.

I. Grievance Policy

If you have a dispute concerning your grade or policies in this class, it is your responsibility to FIRST contact the instructor, either by e-mail or in person, to discuss the matter. Should things remain unresolved after this initial contact, please follow the procedures described in the Clarendon College Catalogue. In the vast majority of cases, the matter can be resolved at the instructor/student level, and learning to communicate your concerns in a civilized manner is part of the college experience.

I. Instructor's Contact Information and Office Hours

My office is located in the Clarendon College Pampa Welding & Wind Center. I will be available during posted office hours, before and after class, or contact me by phone 806-681-6440. My e-mail address is mark.simmons@clarendoncollege.edu.

II. Special Accommodations: Please see the instructor after class or during office hours if you have a disability that requires special accommodations.

Cell Phone & Electronic Devise Policy

Personal computers are allowed. Cell phones will be allowed only on high priority bases if they are set on silent vibrate. They should be answered in a manner that is not disruptive to the class. If a person's cell phone becomes a nuisance they may be asked to leave the class with no opportunity for makeup.

Campus Carry

The 84th Session of the Texas Legislature passed two bills which relate to guns on the premises of college campuses:

Effective January 1, 2016, House Bill 910 (commonly referred to as the "Open Carry" bill) allows a Texas Concealed Handgun License holder to openly carry a holstered handgun, except on the campus of a higher education institution. The law remains unchanged that a firearm may be stored or transported in a locked privately owned or leased motor vehicle by a person who holds a license to carry.

Effective August 1, 2016, for four year Universities and Colleges, and August 1, 2017 for Junior Colleges Senate Bill 11 (commonly referred to as the "Campus Carry" bill) allows a license holder to carry a concealed handgun while on the campus of an institution of higher education. This bill provides that, after consulting with students, staff, and faculty regarding the nature of the population and safety considerations, the Chief Executive Officer of the institution of higher education shall establish reasonable rules, regulations, and provisions regarding carrying on the

campus. The established rules and regulations may not generally prohibit license holders from carrying concealed handguns on campus. Information regarding the portions of the campus where license holders may not carry, referred to as Gun Free Zones, can be found within the Concealed Campus Carry Regulations.

It continues to be an offense if the license holder carries a partially or wholly visible handgun and intentionally/knowingly displays the handgun in plain view to another person on the premises of the campus to include driveways, streets, sidewalks, parking lot, parking garage, or parking area of the institution of higher learning.

Anyone with questions or concerns regarding the Campus Carry Policy can contact the President's Office at 806-874-4808aking that class up.

Student Rights and Responsibilities

Student Rights and Responsibilities are listed on the College website at:

<http://www.clarendoncollege.edu/Resources/Student%20Services/StudentRightsResponsibilities.pdf>

The role of Clarendon College is to encourage individuals of all ages to develop their skills and talents based on their abilities and interests, so that collectively they may contribute to the growth and development of this democracy. College policies, procedures, and regulations are formulated to promote an appropriate teaching and learning environment where each student has the freedom to learn and where the constitutional rights of others are protected.

The concept of rights and freedom, no matter how basic or widely accepted, carries with it corresponding responsibilities. Students, as well as other members of the college community, enjoy the same constitutional and civil rights guaranteed all citizens; at the same time, they are subject to the laws of the nation, the State of Texas, and the local community. All members of the college community have a strong responsibility to protect and maintain an academic climate in which the freedom to learn can be enjoyed by all. To this end, certain basic regulations and policies have been developed to govern the behavior of students as members of the college community.

Violations of student conduct regulations will be handled through the Office of the Vice President of Student Services. Violations of federal, state, and/or local laws make a student subject to civil or criminal action in addition to disciplinary action by the College. Each student is responsible for knowing the policies and regulations of the College.

Freedom of Expression

The rights of free speech and peaceable assembly are fundamental to the democratic process. The College supports the rights of students of the college community to express their views and opinions on actions or ideas, to associate freely with others, and to assemble peacefully.

Whether expressing themselves as individuals or in organized groups, members of the college community are expected to conduct themselves responsibly, according to law, and to respect the basic educational goals of the College. Accordingly, the College insists that free expression not violate the rights of others. Disruption of the educational process and functions of the College, or violation of law, would constitute such a violation.

Students wishing to assemble must complete an official request with the Vice-President of Student Services. The institution reserves the right to determine the time and location of such assemblies in order to ensure that the educational process is not disrupted. The use of amplified equipment is prohibited in student assembly and speech. The institution will not tolerate hate speech, defined as "...the lewd and obscene, the profane, the libelous, and the insulting or 'fighting' words – those which by their very utterance inflict injury or tend to incite and immediate breach of the peace." (Chaplinsky vs State of New Hampshire, 315 U.S. 568, 1942)

Freedom of Access

Within the limits of its resources, Clarendon College shall be open to all applicants who are qualified according to current admission requirements. Clarendon College does not discriminate on the basis of race, creed, color, national origin, mental or physical disabilities, age, or sex in any of its policies, practices, or procedures. This includes, but is not limited to, admissions, employment, financial aid, and educational services, programs, and activities.

Freedom of Association

Students are free to associate to promote their common interests. They have the right to seek, through official procedures, and establish organizations of their choosing so long as such are not in conflict with the educational purposes of the College. Students have the right to affiliate with officially recognized campus organizations of their choice, within the requirements of those organizations relative to membership.

Academic Rights of Students

The College has the responsibility of providing a program of quality education in keeping with its financial resources; students have protection through campus-designed procedures against prejudiced or