

S O U T H E A S T W E L D I N G  
A C A D E M Y C O U R S E  
C A T A L O G



# SOUTHEAST WELDING ACADEMY, LLC

2018 - 2019

Version 6

**Email:** [sewa@southeastweldingacademy.org](mailto:sewa@southeastweldingacademy.org) • **Website:** [southeastweldingacademy.org](http://southeastweldingacademy.org)

SOUTHEAST WELDING ACADEMY

**Is Approved to operate in the District of Columbia**

**By**

**Higher Education Licensure Commission (HELIC).**

**ACADEMY STAFF**

**Owner/Administrator** - Delmus Nelson

**Director** – Londrea Dudley

**Admission Coordinator** – Celsie Edwards

**Welding Instructor** – Robert Woods

**Welding Instructor** – Copernicus Brown

**Classroom Instructor** – Rosa Hodge

**Director of Finance** – Gettis Clair

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## A MESSAGE FROM THE FOUNDER

At Southeast Welding Academy, we believe in partnering with community and faith - based organizations, educational institutions, the government sector, and private industry to better leverage employment and economic growth opportunities for District of Columbia residents.

We understand and believe that education and training can open the doors of opportunity and raise feelings of self-worth and pride.

Our experienced instructors are dedicated to the success of our students. Our team is invested in the development of our students' comprehensive and practical work skills necessary to become a successful certified welder.

We also believe that community investment and aggressive creation of employment opportunities are key to any endeavor in revitalizing people and our city -- one person, one neighborhood at a time.

Southeast Welding Academy is a shared vision to make it happen.

Best Regards,

Delmus Nelson  
Founder and Administrator

## **MISSION STATEMENT**

The mission of Southeast Welding Academy is to offer quality education in an effort to produce “World Class Welders.” Southeast Welding Academy will train students with skills, knowledge and workplace attitudes essential to enter the workforce as dedicated and competent employees.

Southeast Welding Academy pledges to partner with the Washington Metropolitan Area and the Southeast Washington community in particular to assure graduates excel in professional performance and ultimately become reliable employees and business owners who can achieve world-class levels of performance.

## **OBJECTIVES**

To provide training to students that is both simplified and concentrated in an effort to teach the fundamentals of welding.

To reach students actual job practices that can be used in the industry today.

To provide a supply of competent welders for the continuous growing profession.

To partner with the community to assure they are made aware of the opportunities for education and welding.

## **PHILOSOPHY**

We are dedicated to the principle that vocational education should be directed to the needs of the individual as well as the community at-large.

SOUTHEAST WELDING ACADEMY

SCHOOL CALENDAR

Class Schedule

<u>Start Date</u>	<u>End Date</u>	<u>Start Date</u>	<u>End Date</u>	<u>Start Date</u>	<u>End Date</u>
JANUARY 2	- MARCH 2	MAY 7	- JULY 6	SEPTEMBER 10	- NOVEMBER 8
JANUARY 16	- MARCH 16	MAY 21	- JULY 20	SEPTEMBER 24	- NOVEMBER 26
JANUARY 29	- MARCH 30	JUNE 4	- AUGUST 3	OCTOBER 8	- DECEMBER 7
FEBRUARY 12	- APRIL 13	JUNE 18	- AUGUST 17	OCTOBER 22	- DECEMBER 21
FEBRUARY 26	- APRIL 27	JULY 2	- AUGUST 31	NOVEMBER 5	- JANUARY 4
MARCH 12	- MAY 11	JULY 16	- SEPTEMBER 14	NOVEMBER 19	- JANUARY 18
MARCH 26	- MAY 25	JULY 30	- SEPTEMBER 28	DECEMBER 3	- FEBRUARY 1
APRIL 9	- JUNE 8	AUGUST 13	- OCTOBER 12	DECEMBER 17	- FEBRUARY 15
APRIL 23	- JUNE 22	AUGUST 27	- OCTOBER 26	DECEMBER 31	- MARCH 1

Holiday Schedule

New Year's Day	Labor Day
Martin Luther King Holiday Observance	Veteran's Day
Presidents Day	Thanksgiving Day
Memorial Day	Christmas Day
Independence Day	

Hours of Operation

Full-time students - Monday through Friday from 8:00 a.m. to 4:00 p.m.

Part-time students - Tuesday and Thursday evenings from 4:00 p.m. to 8:00 p.m.

Lunch break is a 60-minute period to be scheduled by the Instructor for **full time students only**.

### **Inclement Weather & Cancellation**

Southeast Welding Academy follows D.C. Public Schools closing schedules.

The Administrator will make the decision for late openings or early closings due to inclement weather. An announcement will be left on the Academy's recorded voice mail for decisions concerning inclement weather.

### **Enrollment and Admission Process**

Southeast Welding Academy considers applicants for admission regardless of race, color, religion, national origin, sex, age, marital status, personal appearance, sexual orientation, family responsibilities, political affiliation, physical handicap and source of income.

Potential students interested in enrolling in Southeast Welding Academy must contact the Admissions Office by phone or email.

**Hours of Operation:** 9:30 a.m. to 3:30 p.m., Monday through Friday

**Phone:** 202-610-9858      **Email:** [sewa@southeastweldingacademy.org](mailto:sewa@southeastweldingacademy.org)

Prospective students may pick up an application of admission or request the application to be mailed or faxed.

All students are required to attend orientation at the beginning of the course. We will discuss all Southeast Welding Academy policies, requirements and expectations.

### **Entrance requirements**

- Non-refundable enrollment fee of \$100
- For prospective students without a high school diploma or G.E.D., a competency assessment examination (CASAS) will be scheduled following submission of the application.
- Applicant is required to pass the competency examination with at least a score of 231 (Eight grade level).
- The Academy may refuse to admit students who falsify information on the admission application.
- The Academy will not consider learning credits from previous welding education.

## **Job Placement**

Southeast Welding Academy is committed to assisting students in finding employment, after successful completion of the training program.

Students will meet twice weekly for a Job Preparedness/Readiness class. All students are required to attend.

At the Academy through our Admissions Office, we will post job opportunities.

Prior to the end of the training programs, Southeast Welding Academy will work with the students to develop an employment plan. The plan will include potential contacts and opportunities for employment.

The Academy will collaborate with local employers and community groups to host periodic Job Fairs during which potential employers can meet with potential employees.

## **Facilities and Support**

Southeast Welding Academy consists of an administrative office, classroom, practicum lab area and a study/library area for students.

The classroom is conducive to learning and allows the student the opportunity to learn comfortably. The practicum/lab area offers state of the art equipment and supplies, geared to the industry and technology of welding.

The study area/library is open during Academy hours and is stocked with newspapers, trade journals, periodicals, books and audio-visual materials that will assist the student in assessing a quality education.

## **ADA Compliance**

The Academy will make reasonable accommodations for students with verified disabilities per the American with Disabilities Act. The student should contact the Admissions Office at least four weeks prior to the start of the training to discuss with accommodations may be needed.

The Director will serve as the ADA Coordinator.



## **Fire and Safety**

Safety is paramount to the welding profession.

Southeast Welding Academy is committed to evaluating hazards on a continuous basis.

The Academy provides related safety equipment and Personal Protection Equipment (PPE) that must be worn during welding operations.

Academy students are responsible for following all policies, procedures and guidelines as they relate to safety.

Hot Work Permits are used to ensure all necessary precautions are taken prior to the start of any welding activity.

The Academy's safety practices comply with OSHA and NFPA standards.

Periodically during the training, the Academy will conduct fire drills and safety checks.

Students who violate safety practices are subject to dismissal from the program.

## **Fire Emergency Evacuation Plan**

The general evacuation plan in case of a fire will be by means of everyone reacting to the warning signal given when a fire is discovered, then making their way, by the means of escape, to a place of safety away from the premises (the parking lot at 1100 W Street). This general evacuation plan, will normally be initiated by the sounding of the alarm over the fire warning system. After hearing the alarm, Administrative staff will assist students and staff to leave the building by the nearest safest route. After assembly, a roll call will be done for students and staff. In any case the Administrative staff will ensure that Fire Service is called in the event of an outbreak of fire or any other hazard.

## **Smoking**

Smoking is not permitted on the grounds of Southeast Welding Academy. Students discovered smoking or on the grounds of the Academy are subject to dismissal from the program.

## **Academic and Training Expectation**

Southeast Welding Academy is dedicated to the success of each student and is designed to prepare graduates for successful entry into the job markets. This academic and vocational goal requires a true partnership, with commitments from enrolled students.

## SOUTHEAST WELDING ACADEMY

### Attendance/Tardiness

100% attendance is expected of all students; however, emergencies may arise in which the student may be absent. Therefore, the following hours are allocated for absenteeism during the training:

Basic Welding/Welding I	8 hours
Welding II	8 hours
Basic Shielded Metal Arc	8 hours
Basic Pipe Welding	8 hours
Oxy-fuel Cutting	8 hours
Advanced Pipe Welding	12 hours
Advanced Shielded Metal	12 hours

Students are required to attend 100% of the Safety Training. No absenteeism is allowed.

Students are allowed three occurrences of lateness/absences.

Abuse of or lack of attendance and lateness may result in dismissal from the program.

Absent students are responsible for the missed training information and materials during absence from class.

## Grading System

The Academy uses written quizzes, examinations and class participation as elements in the grading process.

### The grading scale is as follows:

A	90-100
B	80-89
C	79-70
D	Below 70

### Skills assessment scoring:

P	Pass
F	Fail

### Final Grades are assessed as follows:

Exams and Quizzes	25%
Class Participation	10%
Attendance	15%
Skills Assessment	50%

Southeast Welding Academy accepts 75% as passing. Students scoring lower than 75% on a written quiz or exam will be required to meet with the Director on a weekly basis to establish and commit to a personalized learning plan.

Students scoring less than 75% on the final examination will be allowed to complete the competency assessment portion of the examination or program.

Students scoring an “F” - Fail - on competency assessments will not be allowed to continue with the examination assessment/program. The student will be considered for future training programs following discussion and interview with the Administrator.

Students experiencing any academic difficulties should immediately contact their instructor to establish a remediation plan. The remediation plan may include additional reference materials, lab hours and instructional/study time to gear the student towards success.

### **Certificate of Completion**

Students will be awarded a Certificate of Completion at the successful completion of the training course. Consideration of candidacy requires the following:

- Complete the course according to attendance requirements
- Conduct deportment in a professional and safe manner while in the classroom and practicum/lab
- Score at least 75% on the final examination
- Score a “P” (pass) on the skills assessment
- Payment of all outstanding tuition and fees

### **Welding Certification**

Students mastering the welding course and all assignments have the opportunity to earn a national welding certification. The benefits of becoming a certified welder are abundant:

- Successful companies usually hire certified welders.
- Certified welders often receive both national and international recognition because of demonstrated expertise.
- Certified welders are listed in the American Welding Society database, allowing potential employers to search welders based on skills and abilities.
- Certified welders receive the most up-to-date industry information.

**American Welding Society \$550**

**American Society of Mechanical Engineers \$685**

Students are responsible for the cost of certification

It is important to prepare for the certification examination, as there are no refunds.

### **Electronic Devices**

Use of electronic devices is allowed at the discretion of the instructor, however any electronic devices that impede hearing or sight are not allowed in the classroom or practicum/lab area. Cell phone use in the classroom is allowed at the discretion of the instructor, cell phone use is prohibited in the practicum/lab area.

### **Students Grievances**

Southeast Welding Academy is committed to resolving student issues and concerns. Students may initiate the grievance process for grades, attendance and performance.

#### **Following is the process:**

Students should forward a letter to the instructor within 5 business days of the occurrence.

The instructor will meet with the student within 3 business days of the receipt of the letter.

Following discussion of the concern, the instructor will render a decision in writing to the student by the next business day.

If the student is dissatisfied with the instructor's decision, the student should forward a letter to the Administrator within two business days of receiving the instructor's decision.

The Administrator will meet the student within 2 business days to discuss the concern.

The Administrator will render a decision within 2 business days of the meeting.

The Administrator's decision is considered final.

After exhausting the Institutions grievance process the student may file a complaint with the Higher Education Licensure Commission.

### **Random Drug Testing**

Any student suspected of being under the influence of any illegal substances, alcohol, or abusing prescription medications, will be subject to a random drug test. Failure to submit to drug testing will result in immediate dismissal from Southeast Welding Academy.

## **Expectations**

The Academy provides training and education with integrity and expects students to be morally sound, professional and honest. Students are expected to behave in a mature and ethical manner, respecting classmates, instructors and staff. All Students can dress in casual attire; all male students must wear belts and no under garments should be exposed.

## **Dismissal from Program**

Students are subject to dismissal from the Southeast Welding Academy if they fail to meet acceptable standards of performance in examinations or coursework or if they do not comply with regulations stated in Entrance Requirements.

Students are subject to dismissal for the following, but not limited to:

Academic failure

Excessive absences

Theft

Academic dishonesty

Excessive horseplay

Noncompliance of safety measures

Harassment of any type

Threatening behaviors towards students, instructors and staff

Abuse of alcohol, prescription medication or illegal substances

Students dismissed from the program for any of the above reasons may not re-apply for two (2) years.

## **Withdrawal from the Program**

Students who are in academic “**Good Standing**” may withdraw from the program and be considered for re-admission.

**Good Standing:** No attendance, academic or tuition concerns or issues

Students considering withdrawal should contact their instructors for guidance. If the student wishes to continue with the withdrawal from the program, the student should forward a letter to the Administrator. The Administrator or Director will meet with the student to discuss future training options. A copy of the student's withdrawal letter and plan for potential future training will be recorded in the student's file.

## **Refund Policy**

**Southeast Welding Academy's refund policy is as follows:**

A full refund will be given to the student if the withdrawal occurs within 72 hours of signing an enrollment contract, unless the student has entered training. This period shall commence from the date of signing, but shall not include or end on any Saturday or Sunday or legal holiday.

A prorated refund will be given to the students in the Welding Course if less than 60% of the course has been completed.

No refunds will be given to students that are sent to the Southeast Welding Academy through any District of Columbia agency. Refunds will be sent to the District of Columbia agency within thirty (30) days.

Registration fees, Administrative fees, Books, Lab fees and Equipment fees are nonrefundable

## **Transcripts**

Students may receive transcripts upon written request. The fee for transcripts is \$10.00, included in the transcript:

Program and curriculum content

Date of attendance and Grades

## Tuition

Tuition is due by the first week of class. Tuition payment may be made with cash, check, money order or major credit card made payable to Southeast Welding Academy. The tuition rate of \$3600 and the basic course fees of \$1400 is included in the \$5000 tuition rate, which includes registration fee, administrative fees, books, lab fees and equipment fees.

**\*\*\*Basic Course Fees of \$1400.00 is included in the \$5000.00 tuition rate\*\*\***

Tuition plans are available for students via a promissory note. Students who wish to make a payment plan should contact the Admissions Office. Any holder of the promissory note is subject to the terms and conditions of the contract which gives rise to the debt evidenced.

### SEWA 2018 - 2019 Tuition Rates

Basic Shielded Metal Arc	\$5000
Basic Pipe Welding	\$5000
Oxy-fuel Cutting	\$5000
Advanced Pipe Welding	\$5000
Advanced Shielded Metal	\$5000

### Combination Welding Course:

Basic Shielded Metal Arc, Basic Pipe Welding, Oxy-fuel Cutting, Advanced Pipe

4 Courses: \$10000

\*Prerequisite courses are included in the tuition.

**Tuition rates and fees may be increased or modified without personal notification to students or applicants.**



# SOUTHEAST WELDING ACADEMY

## Program Course Outline Description

### Course Objectives

<b>Program:</b>	<b>Welding Technology</b>	
	Welding Technology provides an emphasis on basic welding/welding I and welding II laboratory principles and operating procedures. Topics include: industrial safety and health practices, hand tool and power machine use, measurement, laboratory operating procedures, welding power sources, welding career potentials, and introduction to welding codes and standards. Welding Technology offers two prerequisite modules which are included in your tuition.	
<b>Instructors:</b>	Rosa Hodge, Delmus Nelson, Jon Dennis and Robert Woods	
<b>Text Book:</b>	Welding Principles and Applications, Hobart Textbook, Lincoln Safety Video, and Basic Arc Welding Instructions for the Beginner, Math for Welders, 5th Edition	
<b>Learning Activities:</b>	Lecture, discussion, demonstration, competency assessment, quizzes, examination, return demonstration, technical research paper, senior project	
<b>Class Size:</b>	Number of students in each class <u>10</u> Maximum number of students in each class <u>10</u>	
<b>Modules:</b>	Prerequisite: Basic Welding/Welding I	120 hours
	Prerequisite: Welding II	120 hours

All students must complete the prerequisite modules which consists of 240 hours of related training. The scope of the program is intended to prepare students for advanced study in welding technology and welding-related careers. Upon successful completion of the course, students will receive a Certificate of Completion. Certification testing is done after the completion of the course. Students are given a practical exam that tests their ability to make quality welds.

<b>Courses:</b>	Basic Shielded Metal Arc Welding	120 hours
	Basic Pipe Welding	120 hours
	Oxy-Fuel Cutting	120 Hours
	Advanced Pipe Welding	120 hours
	Advanced Shielded Metal Arc Welding	120 hours

**Total Hours Required for Completion:** 360 Hours

**Certification Exams:** Successful preparation is essential as we are unable to allow re-takes or refunds on failed Certification Examinations

**Cost of Certification Exam:**    AWS \$550                  ASME \$685

**Prerequisite Module I: Basic Welding/Welding I**

**Basic Welding/Welding I - Unit A**

1. Describe the History of Welding
2. Describe how each welding process works
3. Define:
  - a. Welding
  - b. Forge Welding
  - c. Resistance Welding
  - d. Fusion Welding
4. Describe the duties and responsibilities of a welder in various welding positions
5. Define occupational opportunities in welding

**Teaching modalities:** Lecture, discussion and demonstration

**Method of evaluation:** Quizzes

**Basic Welding/Welding I - Unit B**

1. Describe the types of protection worn during welding
2. Describe the methods to protect: eyes, ears, skins, respiratory system
3. Identify and differentiate between general work clothing and protective clothing
4. Describe the proper method of handling storing and setting up cylinders
5. Describe the appropriate and safe way to ventilate the welding area
6. Identify measures to avoid electrical shock
7. Identify measures of fire protection in welding
8. Identify and describe the fumes and gases that may be associated with Arc Welding
9. Define the importance and methods to protect the work area
10. Identify safety measures in the use of hand and power tools

**Teaching modalities:** Lecture, discussion and demonstration

**Method of evaluation:** Quizzes, return demonstration

## SOUTHEAST WELDING ACADEMY

### Basic Welding/Welding I - Unit C

1. Define the use of flame cutting in welding
2. Identify cutting torches
3. Identify cutting tips
4. Define hand cutting
5. Identify the appropriate methods in selecting correct tip and setting pressure
6. Identify the use of plate cutting
7. Describe the methods that improve cutting
8. Define distortion in the welding practice
9. Demonstrate how to properly set up and use an oxy-fuel gas cutting torch

**Teaching modalities:** Lecture, discussion and demonstration

**Method of evaluation:** Quizzes, return demonstration

### Basic Welding/Welding I - Unit D

1. Define Plasma
2. Define Arc Plasma
3. Describe a Plasma Torch
4. Describe the use of power and gas cables
5. Identify the power requirements for cables
6. Define the importance of heat input
7. Describe the applications associated with Plasma Arc cutting
8. Identify methods for machine cutting
9. Describe methods for manual cutting
10. Identify how the workings of a Plasma Cut
11. Identify the advantages of using a Plasma Cut Torch
12. Identify the disadvantages of using a Plasma Cut Torch
13. Identify the safety measures in Plasma Arc cutting

**Teaching modalities:** Lecture, discussion and demonstration

**Method of evaluation:** Quizzes, return demonstration

## SOUTHEAST WELDING ACADEMY

### Basic Welding/Welding I - Unit E

1. Define the types of welding power and sources
2. Explain the use of open circuit voltage
3. Explain the use of operating voltage
4. Identify welding machines according to their type
5. Identify the differences in welding with each type of current
6. Demonstrate the use and settings of welding current
7. Describe the proper maintenance of welding equipment
8. Define the use of rectifiers
9. Define duty cycle
10. Demonstrate the appropriate use of welding cables
11. Demonstrate the appropriate use of electrode cables
12. Demonstrate the appropriate use of work clamps
13. Demonstrate the safe set up of an Arc Welding Station

**Teaching modalities:** Lecture, discussion and demonstration

**Method of evaluation:** Quizzes, return demonstration

### Basic Welding/Welding I - Unit F

1. Define the effect of current settings on Shielding Metal Arc Welding
2. Define the appropriate electrode size and heat
3. Demonstrate appropriate and safe electrode manipulation
4. Describe the effect of electrode angle on a weld
5. Demonstrate the ability to set the welding amperage correctly
6. Define arc length
7. Identify the effect of changing arc length on a wave pattern
8. Demonstrate the ability to control undercut, overlap, porosity and slag inclusion when welding

**Teaching modalities:** Lecture, discussion and demonstration

**Method of evaluation:** Quizzes return demonstration

**Examination and Skills Assessment for Basic Welding Research Project**

## SOUTHEAST WELDING ACADEMY

### Prerequisite Module II: Welding II

#### Welding II - Unit A

1. Demonstrate the ability to use a fire extinguisher
2. Demonstrate the safe use of hand power tools
3. Successfully complete the safe test
4. Perform First Aid procedures

**Teaching modalities:** Lecture, discussion and demonstration

**Method of evaluation:** Quizzes return demonstration

#### Welding II - Unit B

1. Read and interpret lines, views, dimensions and notes on multi-view or pictorial drawings
2. Read and interpret the basic welding symbols and supplementary symbols on drawing or sketches
3. Identify the basic types of weld joints
4. Measure with a ruler within 1/6" accuracy when laying out a job from a drawing or sketch

**Teaching modalities:** Lecture, discussion and demonstration

**Method of evaluation:** Quizzes return demonstration

#### Welding II - Unit C

1. Identify selected metals by appearance, color and weight
2. Identify metal shapes used for welding
3. Conduct test on selected metal: Magnet, Spark, Chisel
4. Laying out a job from a drawing or sketch

**Teaching modalities:** Lecture, discussion and demonstration

**Method of evaluation:** Quizzes return demonstration

## SOUTHEAST WELDING ACADEMY

### Welding II - Unit D

1. Set up and adjust oxyacetylene station
2. Light and adjust flame
3. Close station
4. Lay out and cut: straight lines, angles, circles, patterns, beams and channel iron
5. Lay out and cut pipe
6. Lay out and cut square and round solid rock

**Teaching modalities:** Lecture, discussion and demonstration

**Method of evaluation:** Quizzes return demonstration

### Welding II - Unit E

1. Set up and adjust shielded metal arc welder
2. Strike and maintain an arc
3. Weld straight bead patterns
4. Weld weave bead patterns
5. Construct a fillet weld, 3/16 equal legs, single pass in flat position
6. Construct a fillet weld ¼ equal legs, three passes in the horizontal position
7. Construct a fillet weld ½ equal legs, three passes in the horizontal position
8. Construct a fillet weld, single pass in the vertical up and down positions
9. Construct a V-groove weld, multiple pass in the vertical position
10. Construct a groove weld, multiple pass in the flat position
11. Construct a groove weld, multiple pass in the horizontal position
12. Construct a groove weld, multiple pass in the vertical position
13. Construct a groove weld, multiple pass in the overhead position
14. Construct a groove weld on pipe in the flat axis position
15. Construct a groove weld on pipe in the vertical position

**Teaching modalities:** Lecture, discussion and demonstration

**Method of evaluation:** Quizzes return demonstration

## SOUTHEAST WELDING ACADEMY

### Welding II - Unit F

1. Construct a bead weld, flat position with filler materials
2. Construct a 1/8" fillet weld, lap or tee joint, horizontal position
3. Construct an outside corner joint, flat position
4. Construct an outside corner joint, horizontal position
5. Construct an outside corner joint, single pass on mild steel overhead pass

**Teaching modalities:** Lecture, discussion and demonstration

**Method of evaluation:** Quizzes return demonstration

### Welding II - Unit G

1. Construct a multiple pass T-joint fillet weld in the horizontal position
2. Construct a lap-joint weld in the vertical down position
3. Construct a corner joint fillet weld in the vertical position for break test
4. Construct a T-joint fillet weld in the overhead position with short arc for break test
5. Construct a T-joint fillet weld in the horizontal position with short arc
6. Construct a single V-groove butt joint in the flat position with short arc

**Teaching modalities:** Lecture, discussion and demonstration

**Method of evaluation:** Quizzes return demonstration

**Examination and Skills Assessment for Welding II**

## SOUTHEAST WELDING ACADEMY

### Courses

#### **Basic Shielded Metal Arc Welding**

**120 Hours**

1. Describe safety procedures for SMAW welding
2. Strike and control the arc
3. Adjust welding machine to proper setting
4. Round beads on flat plate
5. Run lap joints flat using 6013DCRP
6. Run beads on flat plate
7. Run "T" joint horizontal using E6010
8. Run lap and "T" joint horizontal positions using 2/32'E7018 DCRP
9. Describe quality and distortion control techniques
10. Run horizontal square groove weld on 1/4' plate using 1/8" E6010 for root weld and 3/32' E7018 for cover
11. Describe numbering system for selecting electrodes, select proper electrode
12. Run vertical up square groove weld on 1/4' plate using 1/8" E6010 for root weld and 3/32' #7018 for cover
13. Run overhead square groove weld on 1/4' plate using 1/8" E6010 for root weld and 3/32' #7018 for cover
14. Run V-groove on 3/8" plate in vertical up and overhead position using 1/8' E6010 electrodes for root pass, and 1/8" or 3/32' E7018 electrodes for fill and cover passes

**Teaching modalities:** Lecture, discussion and demonstration

**Method of evaluation:** Quizzes return demonstration

#### **Examination and Skills Assessment for Basic Shielded Metal Arc Welding**

#### **Basic Pipe Welding**

**120 Hours**

1. Describe safety procedures for basic pipe welding
2. Properly set up for basic pipe welding
3. Demonstrate flat or 1G procedures
4. Demonstrate horizontal or 2G procedures
5. Demonstrate overhead or 4G and 1G procedures
6. Demonstrate welding penetration: 6010, 6011, 6013, 7018, 70124
7. Demonstrate the use of stick welding
8. Identify components of FCAW/Flux core arc welding
9. Identify components of TIC/Tungsten welding

**Teaching modalities:** Lecture, discussion and demonstration

**Method of evaluation:** Quizzes return demonstration



## SOUTHEAST WELDING ACADEMY

### Examination and Skills Assessment for Basic Pipe Welding

#### Courses

##### Oxy-Fuel Cutting

120 Hours

1. Describe safety procedures for oxy-fuel cutting
2. Properly set up oxy-fuel cutting and heating equipment
3. Make a 90 degree line cut
4. Make a 45 degree bevel cut
5. Describe safety procedures for cutting
6. Properly set up cutting equipment
7. Make a 90 degree straight line cut (mild steel)
8. Make a 90 degree straight line cut (aluminum)

**Teaching modalities:** Lecture, discussion and demonstration

**Method of evaluation:** Quizzes return demonstration

#### Examination and Skills Assessment for Oxy-Fuel Cutting

##### Advanced Shielded Metal Arc Welding

120 Hours

1. Describe safety procedures for Advanced Shielded Metal Arc Welding
2. Describe the travel speed for Advanced Shielded Metal Arc Welding
3. Describe the Arc length for Advanced Shielded Metal Arc Welding
4. Describe the welding current for Advance Shielded Metal Arc Welding
5. Demonstrate the application of stringer beads and weaves and fillet welds in the overhead position
6. Demonstrate overhead lap and Tee fillet welds (single and multi-pass)
7. Demonstrate multi-pass fillets in overhead position
8. Demonstrate groove joints in overhead position without backing
9. Demonstrate methods of welding: Pipe, Advanced Pipe, MIG, TIG, Oxy-Fuel Cutting

**Teaching modalities:** Lecture, discussion and demonstration

**Method of evaluation:** Quizzes return demonstration

#### Examination and Skills Assessment for Advanced Shielded Metal Arc Welding

## SOUTHEAST WELDING ACADEMY

### Courses

#### **Advanced Pipe Welding**

**120 Hours**

1. Describe safety procedures for Advanced Pipe Welding
2. Describe the procedures used to cut pipe at a specified angle by hand and by machine for Carbon Steel Pipe
3. Describe the procedures used to perform a filler pass
4. Describe the procedure used to perform a cover pass
5. Demonstrate the procedures used to cup a pipe at the specified angle by hand and machine for stainless steel
6. Describe the procedures used to tack-up the pipe
7. Describe the procedure used to purge the oxygen from the pipe using argon
8. Describe the procedures used to perform a weld out of the pipe in the 6G position

**Teaching modalities:** Lecture, discussion and demonstration

**Method of evaluation:** Quizzes return demonstration

**Examination and Skills Assessment for Advanced Pipe Welding**