

General Program Orientation

Attendance Policy

- Our goal at Fusion Welding Institute is your success
- You must average 15 hours per week to complete your 450 training hours by the end of week 30
- Showing up consistently is YOUR obligation
- Students who do not put in the time have dramatically less welding ability at the completion of the program compared to students that complete the full 450 hours of training.

Attendance Enforcement

- ► Fusion Welding Institute is not responsible for making sure you are consistent with your attendance.
- Just like in real life, success is your obligation
- We provide you with all the tools, materials and over 50 years of experience to help guide you to success
- Only you can show up and put in the work

Effort = Success

- Welding at the top level is challenging but also very rewarding.
- Top level employers have very high expectations for their welders.
- ► The only way to have the skills necessary to weld for top level employers right out of school is to apply 100% effort throughout the program
- ► A medium to low effort level is guaranteed to provide a medium to low income right out of school.



How The Program Works

- The welding program at Fusion Welding Institute consists of 7 progressively more difficult phases
- ► Each phase of the program teaches you a skill set that prepares you for success in the next phase.



The Phases

- Phase (1) Stick Welding Basics
- Phase (2) T-Plate Structural Welding
- Phase (3) Groove Plate Structural Welding
- Phase (4) Tig/Stick Combo Pipe 6 inch
- Phase (5) Tig/Stick Combo Pipe 3 inch
- Phase (6) Tig all the way-out pipe
- ► Phase (7) Electives



How to know what phase you're in?

The phases are based on hours complete

- Phase (1) Hours 1-25
- Phase (2) Hours 25-125
- Phase (3) Hours 125-150
- Phase (4) Hours 150-225
- Phase (5) Hours 225-350
- Phase (6) Hours 350-425
- Phase (7) Hours 425-450



How to know what phase you're in?



Student Progression Chart

Date: Monday, August 29, 2022

Location:

Ocala Training Facility

Hours by Week

Student Name	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Total Hours
Phillip Eben	11	12	13	10	14	10	9	8	8	0	2	5	5	6	4	6	0	11	26	30	23	37	19	29	16						312
Michael Landon	14	18	17	18	14	14	15	6	15	12	7	10	9	0	3	2	4	8	0	6	10	2	0	5	0	0	6	4	0	0	217
Robert Dotson	13	14	17	14	10	9	10	11	13	9	8	13	13	6	9	14	9	10	4	0	10	8	0	0	7	5	6	3			243
Christian Kahn	21	27	0	15	20	8	15	16	9	11	14	14	15	9	5	0	0	0	0	0	0	0	0								197.5
Sterling Baker	10	15	22	12	17	17	11	13	9	14	13	13	9	9	14	12	11	4	4	9	8	0	7	5	5	6					267.5
Blake Fowler	25	16	12	12	12	7	11	10	7	10	11	0	8	4	10	5	9	13	4	0	14	15	16	17	6						252
Adrian Hernandez	9	12	6	9	8	6	5	2	6	5	6	7	6	6	10	3	1	4	4	5	3	1	0	4							126
Jacob Camargo	13	8	6	16	12	13	8	6	0	14	0	9	4	10	8	15	8	9	5	14	13	4	12								205.5
Jamarion Sams	24	15	24	30	10	19	14	20	27	15	13	27	17	14	15	22	20	15	15	6	15	0	16								392.5
Joshua Martin	22	16	8	0	8	16	11	8	5	12	8	6	0	0	4	0	4	2	0	0	4										133
Cody Audit	27	5	4	2	6	0	0	0	2	4	16	0	0	11	13	11	8	10	14	4											135.5
Calvin Powell	6	8	6	9	8	10	4	6	2	0	0	2	0	6																	67
Greg powell	10	9	6	13	17	19	20	6	7	8	9	10																			133.5
vito luzarragce	14	8	8	7	11	15	13	12	17	4	6	16																			130.5
clay tillman	23	13	3	2	16	11	8	9	5	0	12																				101.5
Jacob Hutton	18	13	17	13	19	10	14																								103.5
rayna, kiroshi	13	4	7	10																											34
Jacob Sutherland	14																														13.5

^{*}Total hours correspond with the project student should be working on at that time

^{*}Students complete the program at either 450 hours or 30 weeks which ever comes first





Student Name:

Course Traveler and Progression Chart

Hours 1 - 25	Phase				
Position	Pipe / Plate	Process	Filler Material	Sig	n Off
F,H,V	Plate	SMAW	E7018	F	
			machine set up. Key Leaming	Н	
objectives include base me	tal prep, body positioning, prope	er rod angle, travel speed a	and bead placement.	V	
	beads should be smooth wit	th III absented abill since I	Mald hands should make the		
			he adiacent weld bead or base	- 1	

Hours 25 - 125	Phase	e (2)			
Position	Pipe / Plate	Process	Filler Material	Sig	n Off
H,V,OH	T - Plate	SMAW	E7018	н	
			d basic structural joints. T-plates	V	
shall be welded in the horizon	ntal, vertical and over head po	ositions.	20 (200	ОН	
Acceptance Criteria: Fillet we					
uniform, prep prior to welding			the weld zone. Weld beads narks, weld spatter and under		
cut.	cit do a dici tap. Competed	acid shall be live or all on	and, acid spould and ander		

Hours 125 - 150	Phase	e (3)	Tig.		
Position	Pipe / Plate	Process	Filler Material	Sign	n Off
H,V,OH	Bevel Plate	SMAW	E7018	PRACT.	
Advanced Structural Phase: S				H-Test	
Students learn to apply the SN	MAW process to a bevel, lear	ming both stringer and wea	ave technique.	V-Test	
			32" root spacing. All plates shall	OH-Test	
be ground to clean metal mini 50% over lap between beads.					
cow over tap between beauty.	Titles were small be brestied	oreal, with no are mains, t	were spatier or undercor.		
				1	

Hours 150 - 225	Phas	se (4)			
Position	Pipe Diameter	Process	Filler Material	Sig	n Off
2G, 5G	6" Pipe	GTAW/SMAW	ER70s6/E7018	2G	
	Students will learn to prep, fr	t and weld pipe joints with the	GTAW and SMAW	5G	
processes.				6G	
		up (1/8" to 3/16" root spacing	g). GTAW root pass shall be ad cap shall be completed with	VIS. Test	
the SMAW process. A three s		cut, porosity, arc marks and w			
considered acceptable.				-1	
				$\vdash \vdash$	
				1 1	



Course Traveler and Progression Chart

Revision: 04/10/2023

Hours 225 - 350	Phas	se (5)	7)		
Position	Pipe Diameter	Process	Filler Material	Sign	Off
6G	3"	GTAW/SMAW	ER70s6/ E7018	6G	-
			neir skills in preparation for the	.625 Test	
eld test. "Super Coupon" GTA\	N/SMAW 6G Weld Test at the	conclusion of this phase.			

Hours 350-425	Phase	(6)			
Position	Pipe Diameter	Process	Filler Material	Sign (Off
2G, 5G, 6G	3"	GTAW	ER70s6	6G	
STAW Unlimited Weld Test Pha	ase and 3" TIG all the way out pra	actice.		.625 Test	
lown". Tacks must be tied into t	shall be flush up to 1/16" internal the root pass with a smooth trans (3-5) stringer GTAW cap with a n	ition. GTAW fill passes mu	ust be uniform and consistent.		

Hours 425-450	Phase	(7)		
Position	Pipe Diameter	Process	Filler Material	Sign Off
Any	Any	Any	Any	ww tube
	hoose to continue on any welding		ne most beneficial or discuss	Stainless
additional training Fusion Weldii	ng Institute has available at that ti	me.		Chrome
			tube simulators, chrome, E6010	6010
	training goals with your instructor eria depends on the training activi		tute will do our best to	Hvy Wall
		3-		Lg. Bore
				HT Treat



How to know what phase you're in?

- Pay attention to your hours and communicate with your instructor when it's time to move to the next phase.
- You will receive a weekly progress update; the progress update will also tell you what phase you are in.
- Your instructor will monitor your progress and may move you forward early or hold you back if needed but typically students are moved to the next phase in accordance with the hour mile stones.



Keys to success

- Average at least 15 hours per week
- Work hard and stay focused while you are here
- Ask a lot of questions
- Understand that you get out of the program what you put into the program



SAFE WORK PRACTICES

Safety Objectives



- Understand the importance of safe work conditions.
- Understand the hazards associated with welding.
- Describe Welding Specific Personal Protective Equipment (PPE)
- Overview of Fusion Welding Institute's Health and Safety Procedures
- Understand rules and expectations.
- Discriminate between safe and unsafe behaviors.

Introduction



- Zero safety incidents is the expectation
- ► FWI is committed to providing an outstanding learning experience
- Our rules and expectations are the same as you should expect to encounter in the workplace as a welder.
- Our priority above all else is to keep you safe and informed while attending Fusion Welding Institute

Importance of Safe Working Conditions



- The total cost of fatal and nonfatal injuries in the construction industry is estimated at \$13 billion annually.
- The construction industry specifically welding has many potential hazards.
- The intent of this orientation is to make you aware of the hazards as well as the controls to mitigate these hazards.
- The content in this orientation will keep you safe while attending
 Fusion Welding Institute and will also keep you employed as you
 move into the workforce. Most companies have a zero-tolerance
 policy for violating any of the rules, procedures or guidelines
 included in this orientation.

Incident Reporting



- Report all shop related incidents, injuries and illness to your instructor immediately no matter how minor they may seem. DO NOT leave with an injury and attempt to report it the following day. Minor first aid will be provided as needed.
- All incidents will be documented and recorded.
- Serious injuries will be assed and coordinated through 911 EMT services
- Any injury shop or non-shop related that requires medical treatment, obtain a medical clearance before returning to class.

Evacuations



- In the event of an emergency, it may become necessary to evacuate the building.
- It is your instructors' job to notify you of an emergency.
- Immediately exit the building away from the hazard either through the roll up door or the shop front exit door.
- ► The mustard point for all personnel is at the material storage Conex in the parking lot nearest 24th street.
- Remain at the mustard point until a head count can be completed and a Fusion Welding Institute Representative gives you an "all clear"

Inclement Weather (Tornado)

- In the event of inclement weather, your instructor will notify you of the situation.
- Proceed to the Fusion Welding Institute staff breakroom.
- Shelter in place at that location until "all clear"
- Resume normal shop activities



Stop Work Authority



- All students have the right to refuse to perform tasks they believe are unsafe
- ► Along with this right comes the responsibility to take an active role in resolving and notifying FWI staff of any potential unsafe situation.
- Exercising your right to stop the work of yourself or others WILL NOT result in any form of reprisal or negative action from FWI staff.

What are life critical safety requirements?

Life Critical Safety Requirements are 5 requirements that if not complied with, pose a significant risk to life and health.



What are they?

- Drug and Alcohol
- Rigging and Lifting Operations (Forklift)
- Permanent Shop Electrical Equipment
- Compressed gasses
- Personal Protective Equipment



Drug and Alcohol

- Fusion Welding Institute has a ZERO tolerance policy for any student or staff to be impaired by any drugs or alcohol while on the premises.
- Suspect students and staff may be subject to drug and alcohol screening.
- Violation of this policy will result in immediate permanent termination of student or staff members.



Rigging and Lifting Operations

- Students shall not participate in any rigging, lifting or material handling activities
- Unauthorized use of forklift or rigging of any kind.
- Violation of this policy may result in immediate termination





Permanent Shop Electrical Equipment

- Shop equipment is operated by a 400amp, 480-volt power supply
- Do not tamper with permanent shop power supply for any reason.
- Violation is this policy will result in immediate termination.

Compressed Gasses

- Do not unsecure any compressed gas bottle without screwing the cap on prior to transport.
- Contact your instructor for assistance prior to moving any compressed has cylinders.
- Do not tamper with compressed gas bottles for any reason

(Exception: adjusting flow meter)





Personal Protective Equipment

- Your instructor will inform you of the personal protective equipment required for certain tasks prior to beginning work.
- It is your responsibility to understand and ask if unsure before beginning a task.
- ▶ PPE violations have a 3-strike policy, verbal, written and termination.

(PPE will Be discussed more during orientation)

Job Hazard Analysis (JHA)

- Performed daily prior to start of any work activity
- Formal process designed to engage students and staff in reviewing area hazards, developing appropriate hazard controls, and focusing on the requirements for safe work
- At the conclusion of the meeting students are required to sign on the JHA stating that they were in attendance and understand the hazards associated with that day's activities.
- At the end of a shop day students are asked to provide feedback, identify what went well/wrong and what could be improved with regards to safety.



Sample JHA

- Completed daily prior to starting work
- If you are late to class, review the JHA with your instructor prior to starting any shop activities



Job hazard analysis

Fusion Welding Institute

Emergency Contact Number: Emergency Evacuation Location: **Environmental Conditions** Site Description/Terrai Personal Protective Equipment **Emergency Equipment** ☐ Leather ☐ Welding ☐ Safety Glasses ☐ Face Shield ☐ Hard hat ☐ Reflective yest □ Earplugs ☐ Chemical ☐ Welding Hood ☐ Goggles ☐ RF Monitor ☐ Safety toe boots ☐ Onsite Trained Personnel Safe Work Practices ☐ Safe Work ☐ Confined Space ☐ Slips/Trips ☐ Electrical ☐ Housekeeping ☐ Underground Utilities ☐ Heat Stress ☐ Vehicle Traffic ☐ Manual Lifting □ Cold Stress Tailgate Safety Meeting Job Description ☐ Visual inspection of job-site prior to starting work ☐ Visual inspection of all PPE ☐ Every student present for JSA Student Sign On I have reviewed and participated in completing the JSA. I understand the procedures assigned for the job being performed. I am aware of the potential hazards and protective measures to prevent an injury or incident to me or the crew. I will perform my job to the best of my ability and as safely as possible. ☐ Stop Work Authority

General Safe Work Practices

Shop Dress Requirements

- Wear cotton shirts that cover the entire torso. Short sleeves are prohibited
- Neck coverings are recommended to prevent UV burns.
- Dress in full length pants that extend to the ankle and are made of sturdy cotton material without, hole, rips or tears.
- Wear safety toed foot ware. Foot ware must be of leather construction and extend above the ankle.
- Any lanyard must have a breakaway clasp.



General Safe Work Practices

Electronic equipment

- Headphones speakers and other such equipment in the shop area are permitted so long as you are respectful to other students around you.
- Do not use cell phones while engaging in shop activities.
- ▶ Do not use cell phones while driving in Fusion Welding Institute parking lot.

General Safe Work Paractices

Tool Use

- Choose the right tool for the job and use it correctly
- Inspect tools for damage before each use
- If a tool is found defective, report it to your instructor immediately.
- ▶ If a tool is equipped with a guard, do not remove or tamper with it.
- Unplug or remove energy source (air) from all tools before attempting to perform maintenance or replace blades/wheels.

General Safe Work Practices

Pneumatic tools

- ▶ Be sure all pneumatic hose connections are securely fastened and a safety device (whip check) is installed, as required, to prevent hose from whipping if accidentally dislodged. (1/2-inch hose and larger)
- Inspect air hose in weld booth daily for damage.

House Keeping

- Housekeeping is a fundamental and necessary activity and will be performed by every student at Fusion Welding Institute.
- Keep walkways and doorways clear, unobstructed and free of electrical cords, boxes and equipment at all times.
- Keep scrap metal at a minimum and discard in appropriate scrap metal container.
- Place tools and materials where they will not pose a hazard to others.
- Clean your work area periodically throughout the day, clean as you go.
- ► The last 30 minutes of the day will be designated "roll back" time to re-store the shop back to its original condition.

The proper selection and use of PPE is an important element in preventing shop related injuries. However, PPE only works when used correctly. You should be aware of all PPE requirements for your task (ask if unsure). Observe all postings and only use Fusion Welding Institute approveed PPE.

Eye Protection

- Safety Glasses are required at all times while in the shop area.
- Safety Glasses must be ANSI Z87.1 approved
- Personnel prescription glasses must meet these standards or be worn under approved over-the-glasses safety glasses
- Do not wear dark shaded safety glasses inside the shop area

Face Shields

- Must be worn at all times during any cutting or grinding operations
- Face shields do not provide full eye protection. Safety glasses must be worn under your face shield at all times

Hearing Protection

- Ear plugs are free and available in the tool room to all students and staff.
- As a general rule, hearing protection should be used any time you have to raise your voice above normal speaking to communicate. If you notice that noise levels in your area cause you to raise your voice to communicate you shall acquire ear plugs from the tool room before continuing work.

Hand Protection

- Gloves are required for all shop associated tasks.
- All gloves used must meet special requirements for cut and puncture ratings.
- Only use leather gloves approved by Fusion Welding Institute.

Safety Shoes

- ► Leather shoes or boots above the ankle required at all times while in the shop.
- No open toe shoes, sandals, tennis shoes etc.

Grinder Safety

- Always remove power before changing blades/wheel
- Leather gloves, long sleeves, face shield and safety glasses required at all times while operating a grinder.
- ▶ Never remove guards or handles.
- ▶ Be aware of your sparks and others in your work area.

Fume and Smoke Safety

- Fumes or debris in the air can be harmful.
- ► Weld in a well-ventilated area.
- ►Use proper fume removal equipment.
- ►Shop is well ventilated



Fire Prevention

- Fire extinguishers are located by all doorways that enter/exit the shop.
- The tool-room also maintains fire extinguishers if needed.
- Keep work areas neat and free of combustible material. The best fire prevention technique is good housekeeping
- Note the exit routes of the building in the event of emergency.
- Report to the mustard point in the parking lot and await further instruction.
- Do not attempt to fight a fire that you can not immediately extinguish with minimal effort.

Fire Prevention

P.A.S.S. Technique

- ▶ Pull The extinguisher pin out.
- ▶ Aim The nozzle at the base of the fire.
- Squeeze The Trigger.
- Sweep The nozzle across the base of the fire.

Heat Exposure

Understanding the symptoms of heat related illness

- Heat Cramps- Painful muscle cramps caused by loss of body salt from excessive sweating.
- ▶ **Heat Exhaustion-** Indicates the body's cooling system is not working properly. The victim will sweat heavily; the victim's skin will be cool and moist; the victim will seem tired, confused, clumsy, irritable or upset.
- ▶ **Heat Stroke-** The deadliest of all heat related illness. The victim's body temperature will rise; the victim's skin may be hot, red and dry; the victim may complain of headache or dizziness.
- If you feel any of these symptoms contact your instructor immediately. Take breaks as needed and stay hydrated throughout the day.

Ladder Safety

- Do not use ladders for any reason while attending Fusion Welding Institute
- Ask your instructor for assistance if you need a ladder.

Parking Lot Safety

- Drive defensively in the parking lot.
- No cell phone use while driving in the parking lot
- Speed limit is 5 MPH in the parking lot
- Back into your parking space

Safety Policy Enforcement

- Life critical policies are zero tolerance, any violation of a life critical policy will result in immediate dismissal of student.
- Any other violation will result in a verbal warning, formal written warning and finally a formal dismissal from future activities at Fusion Welding Institute.