

FACT SHEET

The **American Welding Society (AWS) SENSE Welding Level 1** programme was designed for persons aspiring to become certified welders. This qualification focuses on the practical skills and underpinning knowledge required to work in fabrication and welding and is therefore an excellent starting point for anyone seeking a career as a welder.

Assessment is undertaken through a combination of practical assignments and written examinations to verify that each learner has attained a broad range of welding related competencies. Learners are required to successfully complete a series of written exams to gain the certificates. These written exams cover a wide breadth of welding theory, ranging from welding safety, welding process fundamentals and even welding inspection. Additionally, Learners are required to also complete practical welding assessments relating to the four (4) welding processes for SMAW, MAW, GMAW, GTAW and FCAW.

What is SENSE?

SENSE – *Schools Excelling through National Skills Education* - is a set of specifications and guidelines meant to assist schools in training welders. The program guidelines were originally published in 1995 and 1996 through grants received from the U.S. Department of Education and Department of Labor. Based on a survey of the welding industry, the SENSE guidelines define two levels of knowledge and skills required in the welding workplace. Individuals trained in Training Organizations aligned to the SENSE guidelines may implement SENSE Level I: Entry Welder and/or SENSE Level II: Advanced Welder.

The SENSE specifications and guidelines were created and continue to be maintained by a committee of expert volunteers from all corners of the welding industry. These industry representatives work hard to ensure that a trainee completing a program built on the SENSE specifications and guidelines will have the skills to be both hireable and productive within the welding industry.

Trainees that complete a SENSE-compliant training program are eligible to receive an AWS SENSE certificate and wallet card. The SENSE program includes four different certificates that a trainee can earn, one for each welding process offered (SMAW, GMAW, GTAW, and FCAW).

Duration

This qualification can be completed in **One Year**. There are two (2) intakes per year in January and September.

Pre-requisites

There are no pre-requisites for this programme. However, basic knowledge in Mathematics will be an asset.

Mode of Study

Classes for this programme will be on evenings and Saturdays and will be offered at **SBCS GLI Champs Fleurs campus**.

Programme Structure:

Semester 1 (Jan 2021 – June 2021)	Semester 2 (July 2021 – Dec 2021)
1. Introduction to Safety and Health of Welders 2. Drawing and Welding Symbol Interpretation 3. Thermal Cutting Processes 1 & 2 4. Shielded Metal Arc Welding 1 & 2	5. Gas Metal Arc Welding 6. Flux Core Arc Welding 7. Gas Tungsten Arc Welding 8. Welding Inspection and Testing Principles

Assessments

This qualification will be assessed by a combination of written examinations and practical assessments.

Fee Schedule

Fees for this programme are as follows:

FEE	AMOUNT	NOTE
SBCS Registration Fee	TT\$500	Payable upon registration
Insurance fee	TT\$60	Payable upon registration
AWS Sense Registration Fee	US\$20 (one-time payment)	Payable by: March 1st 2021
Tuition Fee	Cash: TT\$15,000	Early registration discount of 10% valid until Dec 4 th 2020
Examination Fee	US\$50 (per written exam)	Total Examination Fee = US\$350 Payable by: Jun 30th 2021

NOTE:

All SBCS Fees in US dollars must be paid via bank draft payable to “SBCS Global Learning Institute”. Please include your name on the bank draft in the B/O (by order of) section

UNITOUTLINE

UNITS			
	Unit	Competencies	Assessment
1	Introduction to Safety and Health of Welders	<ol style="list-style-type: none"> Understand the function of a welder in industry including knowledge of shop operations Demonstrate proper safe operation practices in the work area, as described in ANSI Z 49.2 Section 4, Protection of personnel and the general area & ANSI Z 49, Part 1 General Aspects and applicable OSHA regulations. 	<p>Instructor observation of safe operational practices</p> <p>Sense Module 2 Test (ANSI Z 49.1)</p>
2	Drawing and Welding Symbol Interpretation	<ol style="list-style-type: none"> Evaluate welding drawings or sketches Interpret welding symbol information Perform conversion between US and SI units Produce a multi-view sketch 	Written test score 75% minimum
3	Thermal Cutting Processes 1 & 2	<p><u>Oxy-fuel cutting</u></p> <ol style="list-style-type: none"> Evaluate cutting equipment, accessories and consumables to ensure proper safety and operations Produce manual Oxyfuel cuts on carbon steel Produce mechanized Oxyfuel cuts on carbon steel Perform scarfing and gouging operations to remove base and weld metal on carbon steel Evaluate cuts to ensure AWS D.1.1 standards are met <p><u>Plasma Arc cutting</u></p> <ol style="list-style-type: none"> Produce manual plasma arc cuts on carbon steel Perform scarfing and gouging operations to remove base and weld metal on carbon steel Evaluate cuts to ensure AWS D.1.1 standards are met 	<p>Written Test Score 75% minimum</p> <p>Visual Inspection Passed</p>
4	Shielded Metal Arc Welding 1 & 2	<ol style="list-style-type: none"> Evaluate SMAW equipment, accessories and consumables to ensure proper safety and operations Produce fillet welds in flat, horizontal, vertical and overhead positions on carbon steel Produce groove welds in flat, horizontal, vertical and overhead positions on carbon steel Evaluate welds to ensure AWS D.1.1 standards 	<p>Written Test Score 75% minimum</p> <p>Visual Inspection Passed</p> <p>Destructive Test Passed</p>

		are met	
5	Gas Metal Arc Welding	<ol style="list-style-type: none"> 1. Evaluate GMAW equipment, accessories and consumables to ensure proper safety and operations 2. Produce fillet welds in all positions on carbon steel 3. Produce groove welds in all positions on carbon steel 4. Evaluate welds to ensure AWS D.1.1 standards are met 	Written Test Score 75% minimum Visual Inspection Passed
6	Flux Core Arc Welding	<p><u>Self-Shielded</u></p> <ol style="list-style-type: none"> 1. Evaluate FCAW-Self Shielded equipment, accessories and consumables to ensure proper safety and operations 2. Produce fillet welds in all positions on carbon steel 3. Produce groove welds in all positions on carbon steel 4. Evaluate welds to ensure AWS D.1.1 standards are met <p><u>Gas-Shielded</u></p> <ol style="list-style-type: none"> 1. Evaluate FCAW-Gas Shielded equipment, accessories and consumables to ensure proper safety and operations 2. Produce fillet welds in all positions on carbon steel 3. Produce groove welds in all positions on carbon steel 4. Evaluate welds to ensure AWS D.1.1 standards are met 	Written Test Score 75% minimum Visual Inspection Passed
7	Gas Tungsten Arc Welding	<ol style="list-style-type: none"> 1. Evaluate GTAW equipment, accessories and consumables to ensure proper safety and operations 2. Produce fillet welds in all positions on carbon steel, Aluminum and Stainless Steel 3. Produce groove welds in all positions on carbon steel, Aluminum and Stainless Steel 4. Evaluate welds to ensure AWS D.1.1 standards are met 	Written Test Score 75% minimum Visual Inspection Passed
8	Welding Inspection and Testing	<ol style="list-style-type: none"> 1. Evaluate cut surfaces and edges of prepared 	Written Test Score 75% minimum

All financial information provided by SBCS is subject to change

	Principles	base metal parts 2. Evaluate tacks, root passes, intermediate layers and completed welds	Passed the visual inspection of a written test
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Contact Information

Further information can be found on the SBCS website:

<http://www.sbcs.edu.tt/academic-centre/centre-for-information-technology-and-engineering/>

Course administrators can also be contacted directly:

Campus	Telephone: 663-SBCS (7227)	Email
Champs Fleurs	Extensions: 1094/6, 1253/54	CITE-Eng@sbcs.edu.tt