

DANEST ENGINEERING CO. LTD

WELDING CONSULTANTS, EDUCATORS AND SITE LAB OF METALLURGICAL TESTING LABORATORIES OF SOUTH AFRICA FOR MECHANICAL/METALLURGICAL TESTING OF MATERIALS AND WELDS. OPERATORS OF

WELDER TRAINING AND TESTING CENTER (W TTC) – TAKORADI

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2023 CATALOG FOR THE TRAINING, QUALIFICATION AND CERTIFICATION OF STRUCTURAL WELDERS, PIPE WELDERS, PIPE FITTERS AND WELDER FABRICATORS IN THE PATHWAYS STRUCTURAL AND PIPE WELDING AND SMAW 6G PIPE WELDER TRAINING PROGRAM

Ing. Daniel S. Kwarkyi (Managing Director)

DANEST Welder Training and Testing Center (Qualifier/Facility Manager)

Member- American Welding Society (AWS)

AWS Certified Welding Inspector (CWI) No. 13030021

AWS Certified Welding Educator (CWE)

ASNT SNT-TC-1A Level II, MT & PT and UT Level I

Subject Matter Expert (SME) in Standards, Accreditation and Conformity Assessment

DANEST WTTC-Takoradi is offering its flagship Structural and Pathways Welding training program starting March 2023. This 40-week program offers prospect welders the opportunity to be employed as entry welders in the Oil and Gas, Mining, Manufacturing, Fabrication and the General Construction Industry. Structural and Pathways Welders have a career advancement opportunity to pursue higher education in welding – the Associate Degree in Welding Technology and the Bachelor’s Degree in Welding Engineering Technology, offering prospects employment opportunities as: Welding Engineer, Manufacturing Engineer, Application Engineer, Sales Engineer, Project Engineer or Manager and Welding Instructor. Graduates of the 40-week Structural and Pathways welding program may further their career in Welding Engineering Technology, Manufacturing Engineering Technology, Mechanical Engineering Technology or Electrical Engineering Technology programs.

EMPLOYMENT OPPORTUNITIES AFTER SUCCESSFUL COMPLETION OF PATHWAYS WELDING PROGRAM

Graduates of the 40-week Pathways Structural and Pipe Welding training program find employment opportunities in all sectors of the construction, fabrication and manufacturing economy. The most common employers include the automotive industry, mining, agricultural and construction equipment producers, oil & gas industry suppliers, welding equipment manufacturers and robotics and welding automation firms. Welding education and training institutions also have employment opportunities for such welders who further their education in Welding. These credentials offer qualified structural welders, pipe welders, pipe fitters and welder fabricators employment opportunities as entry welders in the manufacturing, services and construction industries as Pipefitters and Steam Fitters, Boiler Makers, Structural Metal Fabricators and Fitters, Structural Iron and Steel Workers, Welders, cutters, Welding machine setters, operators and tenders in the Shipyard, Gold, Bauxite, Iron Ore, Manganese Mining, Fabrication and Steel Construction companies, Railway development, Building, Civil and Road Construction.

CAPACITY TO DELIVER

Danest Engineering Co Ltd, operators of DANEST Welder Training and Testing Center, has the facility complete with welding equipment and consumables, the required industry curriculum and procedures, and meets the AWS Accredited Testing Facility (ATF) requirements. The facility is managed by a 9-year recertified AWS Certified Welding Inspector, has qualified Instructors and the qualification to issue Industry Approved Welder Qualification Test Certificates for the Pathways Structural and Pipe Welding program starting March 2023. DANEST-WTTC has the capacity to train 200 welders a year under this flagship accelerated welder training program.

RESPONSIBILITY OF DANEST WTTC-TAKORADI UNDER THIS PROGRAM

Provision of welding training facility complete with suitable welding machines, adequate power supply, adequate training consumables including plates, pipes, welding rods, shielding and cutting gases. Provision of adequate PPE and tools for each process including welding helmet, boots, jacket, gloves, hand grinder, chipping hammer, pliers etc.

Provision of qualified Welding Instructors and Educators, audio visual classrooms, restrooms, lockers and books.

**PATHWAYS STRUCTURAL AND PIPE WELDING TRAINING PROGRAM DETAILS
40 WEEKS 1,400 HOURS TUITION:\$21,600 BOOKS:\$615 PPE:\$630 (Total: \$22,845)**

This sequence of courses is recommended for the student interested in developing the skills and knowledge associated with all position welding on plate, and further enhancing their skills and knowledge through additional training aligned within a career pathway.

The Pathways Welding Program is divided into two separate modules. The first module is 24 weeks in length and is comprised of 10 courses that focus on the development of welding fundamentals and skill. During this portion of training students will have the opportunity to test for four internationally recognized AWS Welder Certifications during the hours of the applicable course after all other course requirements have been met:

- *AWS D1.1 Shielded Metal Arc Welding
- *AWS D1.1 Flux Cored Arc Welding
- *AWS D1.6 Gas Tungsten Arc Welding 304 Stainless Steel
- *AWS D1.1 Gas Metal Arc Welding Pulsed Spray Transfer.

While completing module 1, students will complete a series of career advising sessions where they will learn about the different industries associated with welding, current career opportunities and the 3 different pathways program options available to them. During the student's 6th month of training, they will participate in a one-on-one career advising session where they will select their career pathway for Module 2. Each Pathway module is 16 weeks in length and has 2 additional AWS Welder Certifications opportunities integrated into the program.

Successful completion of this program gives the student the necessary welding skills required for entry level employment as a welder in their chosen career path.

MODULE 1: 24 Weeks (840 Clock Hours) Core Training

Welding Technology & Blueprint Reading	2 weeks	70 clock hours
Oxyacetylene Welding, Cutting and Brazing	2 weeks	70 clock hours
Shielded Metal Arc Welding Basic	4 weeks	140 clock hours
Shielded Metal Arc Welding Advanced	4 weeks	140 clock hours
Gas Tungsten Arc Welding Carbon Steel	2 weeks	70 clock hours
Gas Tungsten Arc Welding Stainless Steel	2 weeks	70 clock hours
Gas Metal Arc Welding Basic	2 weeks	70 clock hours
Gas Metal Arc Welding Advanced	2 weeks	70 clock hours
Flux Cored Arc Welding Basic	2 weeks	70 clock hours
Advanced Blueprint Reading	2 weeks	70 clock hours

MODULE 2: 16 Weeks (560 Hours) Pathway Option 1: Pipe Welder

Students enrolled in the Pipe Welder Pathway will develop welding skills on carbon steel and stainless-steel pipe using the gas tungsten arc welding and shielded metal arc welding processes with uphill travel.

During this module students will have the opportunity to test two additional AWS Welder Certifications aligning with their career pathway including a carbon steel open root 2" pipe welded in the 6G position using the gas tungsten arc welding process and a carbon steel open root 6" pipe welded in the 6G position using the shielded metal arc welding tested in accordance with AWS D1.1.

Accomplished students should have the skills necessary to succeed as an entry level pipe welder.

Shielded Metal Arc Welding 6" Pipe 2G & 5G Uphill	4 weeks	140 clock hours
Shielded Metal Arc Welding 6" Pipe 6G Uphill	2 weeks	70 clock hours
Shielded Metal Arc Welding 2" Pipe 6G Uphill	2 weeks	70 clock hours
Gas Tungsten Arc Welding 2" Pipe	4 weeks	140 clock hours
Gas Tungsten Arc Welding Stainless Steel 2" Pipe	2 weeks	70 clock hours
Gas Tungsten Arc/Shielded Metal Arc Welding 6" Pipe 6G Uphill	2 weeks	70 clock hours

Pathway Option 2: Pipefitter

Students enrolled in the Pipefitter Pathway will gain knowledge of piping systems and the piping fabrication process, while developing skills in gas tungsten arc welding and shielded metal arc welding pipe. During this module, students will have the opportunity to test two additional AWS Welder Certifications aligning with their career pathway including a carbon steel open root 2" Pipe welded in the 6G position using the gas tungsten arc welding process and a carbon steel open root 6" pipe welded in the 6G position using the gas tungsten arc welding process and the shielded metal arc welding process tested in accordance with AWS D1.1.

Accomplished students should have the skills necessary to succeed as an entry level pipefitter.

Shielded Metal Arc Welding (SMAW) 6" Pipe 2G & 5G Uphill	4 weeks	140 clock hours
Gas Tungsten Arc Welding (GTAW) 2" Pipe	4 weeks	140 clock hours
Gas Tungsten Arc Welding Stainless Steel 2" Pipe	2 weeks	70 clock hours
GTAW/SMAW 6" Pipe 6G Uphill	2 weeks	70 clock hours
Pipe Layout for Fitters & Welders I	2 weeks	70 clock hours
Pipe Layout for Fitters & Welders II	2 weeks	70 clock hours

Pathway Option 3: Welder-Fabricator

Students enrolled in the Welder-Fabricator Pathway will develop skills and knowledge associated with welding fabrication and manufacturing. Training will focus on advancing the student's knowledge and skills in gas metal arc welding, flux cored arc welding, and gas tungsten arc welding, while also introducing the student to fabrication and pipe layout. During this module students will have the opportunity to test two additional AWS Welder Certifications aligning with their career pathway including an open root double bevel groove weld on carbon steel welded in the 3G position using gas metal arc welding pulsed spray transfer and an AWS D1.1 single v-groove weld with backing on carbon steel welded in the 3G position using self-shielded flux cored arc welding. Accomplished students should have the skills necessary to succeed as an entry level welder-fabricator and production welder.

Gas Tungsten Arc Welding 2" Pipe	4 weeks	140 clock hours
Gas Metal Arc Welding Industrial	2 weeks	70 clock hours
Flux Cored Arc Welding Advanced	2 weeks	70 clock hours
Gas Tungsten Arc Welding Aluminum	2 weeks	70 clock hours
Introduction to Metal Fabrication	2 weeks	70 clock hours
Pipe Layout for Fitters & Welders I	2 weeks	70 clock hours
Pipe Layout for Fitters & Welders II	2 weeks	70 clock hours

STRUCTURAL WELDING PROGRAM

24 WEEKS 840 HOURS TUITION:\$12,800 BOOKS:\$515 PPE:\$630 (Total: \$13,945)

This sequence of courses is recommended for the student interested in the major welding processes for all position welding skills on plate, safety and technical information. The program includes the opportunity to test for four AWS international Welder Certifications during the applicable course after all other course requirements have been met:

AWS D1.1 Structural Shielded Metal Arc
AWS D1.1 Structural Flux Cored
AWS D17.1 Gas Tungsten Arc Welding 304 Stainless Steel
AWS D1.1 Gas Metal Arc (pulsed spray transfer)

Successful completion of this program gives the student the necessary welding skills required for entry level employment as a Structural Welder.

Welding Technology & Blueprint Reading	2 weeks	70 clock hours
Oxyacetylene Welding, Cutting and Brazing	2 weeks	70 clock hours
Shielded Metal Arc Welding Basic	4 weeks	140 clock hours
Shielded Metal Arc Welding Advanced	4 weeks	140 clock hours
Gas Metal Arc Welding Basic	2 weeks	70 clock hours
Gas Metal Arc Welding Advanced	2 weeks	70 clock hours
Gas Tungsten Arc Welding Carbon Steel	2 weeks	70 clock hours
Gas Tungsten Arc Welding Stainless Steel	2 weeks	70 clock hours
Flux Cored Arc Welding Basic	2 weeks	70 clock hours
Advanced Blueprint Reading	2 weeks	70 clock hours

SMAW PIPE WELDER TRAINING PROGRAM FOR NEW WELDERS

14 WEEKS 490 HOURS TUITION:\$7,300 BOOKS:\$200 PPE:\$395 (Total:\$7,895)

Welder Qualification Test Certificate - AWS D1.1 3G & 4G and ASME IX 6G available after successful completion.

Shielded Metal Arc Welding – Basic	4 Weeks	140 Clock Hours	Tuition \$2,000
Shielded Metal Arc Welding – Advance	4 Weeks	140 Clock Hours	Tuition \$2,000
Shielded Metal Arc Welding – 2G&5G	4 Weeks	140 Clock Hours	Tuition \$2,200
Shielded Metal Arc Welding – 6G	2 Weeks	70 Clock Hours	Tuition \$1,100

COMMENCEMENT AND COMPLETION DATES FOR PATHWAYS TRAINING PROGRAM

Training shall be in groups of 20 each, starting with Group1 on 17/04/23 (4 Weeks interval)

GROUP	START DATE	END DATE	APPROVAL BY
1. (20 Trainee Welders)	17/04/23	09/02/24	07/04/23
2. (20 Trainee Welders)	15/05/23	08/03/24	05/05/23

INDIVIDUAL COURSES - ALL SHIELDED METAL ARC WELDING (SMAW) COURSES

Shielded Metal Arc Welding Basic	4 Weeks	140 Clock Hours	Tuition \$2,000
Shielded Metal Arc Welding Advanced	4 Weeks	140 Clock Hours	Tuition \$2,000
SMAW 6” Pipe 2G&5G Uphill	4 Weeks	140 Clock Hours	Tuition \$2,200
SMAW 6” Pipe 6G Uphill	2 Weeks	70 Clock Hours	Tuition \$1,100
SMAW 2” Pipe 6G Uphill	2 Weeks	70 Clock Hours	Tuition \$1,100

ALL GAS TUNGSTEN ARC WELDING (GTAW) COURSES

Gas Tungsten Arc Welding Carbon Steel	2 Weeks	70 Clock Hours	Tuition \$1,100
Gas Tungsten Arc Welding Stainless Steel	2 Weeks	70 Clock Hours	Tuition \$1,100
Gas Tungsten Arc Welding 2" Pipe	4 Weeks	140 Clock Hours	Tuition \$2,200
GTAW Stainless Steel 2" Pipe	2 Weeks	70 Clock Hours	Tuition \$1,100
GTAW/SMAW 6" Pipe 6G Uphill	2 Weeks	70 Clock Hours	Tuition \$1,100
Gas Tungsten Arc Welding Aluminum	2 Weeks	70 Clock Hours	Tuition \$1,100

ALL GAS METAL ARC WELDING (GMAW) COURSES

Gas Metal Arc Welding Basic	2 Weeks	70 Clock Hours	Tuition \$1,100
Gas Metal Arc Welding Advanced	2 Weeks	70 Clock Hours	Tuition \$1,100
Gas Metal Arc Welding Industrial	2 Weeks	70 Clock Hours	Tuition \$1,100
Gas Metal Arc Welding Pipe	2 Weeks	70 Clock Hours	Tuition \$1,100
Flux Cored Arc Welding	2 Weeks	70 Clock Hours	Tuition \$1,100

For individual welding courses choose as many courses desirable to fulfil individual career choice. You may visit or call DANEST WTTC-Takoradi for help in career choice.

TECHNICAL TRAINING COURSES

Engineers & Managers' Appreciation of Welding	1 Week	40 Hours	Tuition \$1,000
Arc Welding Inspection & Quality Control	1 Week	40 Hours	Tuition \$1,000
Welding Instructors Course	1 Week	40 Hours	Tuition \$1,000
Welding Education, Skills and Certification conference	3 Days	24 Hours	Fee \$850
Fundamentals of Visual Inspection	2 Days	14 Hours	Tuition \$650
Welding for the Non-Welder	4 Days	28 Hours	Tuition \$750

WELDER QUALIFICATION/APPROVAL TESTING FOR WELDERS ONLY

Cost for common processes for training of welders before welder qualification/approval test.

SMAW: Shielded Metal Arc Welding MMA: Manual Metal Arc Welding	GMAW: Gas Metal Arc Welding MIG/MAG: Inert or Active Gas Welding	GTAW: Gas Tungsten Arc Welding TIG: Tungsten Inert Gas Welding	FCAW: Flux Cored Arc Welding
\$ 525 per week	\$ 525 per week	\$ 525 per week	\$ 525 per week

For further information on Pathways Structural and Pipe Welding training program, send e-mail to daniel@danestweldgh.com or call Daniel on 0244384975.

For Technical Courses including Arc Welding Inspection and Quality Control, 5-Day Appreciation of Welding for Engineers & Managers, and Welding Education, Skills and Certification for Skills Training providers and institutions, e-mail daniel@danestweldgh.com or call Daniel on 0244384975 for details.

For inquiries on individual courses, short training courses, Welder Qualification renewal and Welder Qualification testing, call Daniel on 0244384975, visit our DANEST WTTC-Takoradi facility in Takoradi or email daniel@danestweldgh.com for assistance.