YOUR CAREER IN WELDING

Taking the First Step to a Bright Future…
What is Welding?

- Most common way of joining metal parts.
- Heat is applied to metal pieces, melting and fusing them together.
- Used to build ships, automobiles, planes and space vehicles.
- Used to join beams when constructing buildings, bridges, and other structures.
- Used to join pipes in pipelines, power plants, and oil refineries.
- Used in the manufacturing of small electronic devices, medical equipment, and nanotechnology – the latest development to revolutionize the world of materials.
Importance To Manufacturing

• Welding plays a key role in the manufacturing challenge

• Welding contributes to:
  – Heavy Manufacturing
  – Light Manufacturing
  – Construction
  – Transportation
  – Electronic/Medical
  – Maintenance & Repair
  – Energy
Where is welding used?

Everywhere!

- Automobiles
- Race Cars
- Buildings
- Bridges
- Ships
- Furniture
- Computers
- Motorcycles

- Medical Devices
- Tooth Paste Tubes
  - Oil Rigs
- Farm Equipment
  - Bicycles
- Cell Phones
  - IPods
- Scooters

Almost everything is welded!
• Manufacturing, Construction and Mining is a $3 trillion industry -- That is 1/3 of the US GDP.

• Welding is a $34 billion industry.

• Labor represented more than 70% of welding-related expenditures, $22.4 billion in 2000.

• There are more than 500,000 welders working in US.

• The average age of welders in today’s workforce is 54.

• It is estimated that there will be a shortage of more than 400,000 welders by 2015.

• This year, 50,000 welders will leave the industry while only 25,000 students begin their welding education.
• **Advancing manufacturing technology** creates more uses for welding and is expanding opportunities.

• There is an increased emphasis on **certification to** ensure quality.

• **Computer skills** needed to program robots, lasers and systems.

• Welding new materials require a more educated and **innovative welder workforce**.

• Welding automation requires **skilled machine operators**.

• **Foreign competition** requires US companies to be more competitive and skilled in welding operatorations.

• Skilled welders needed to maintain/repair **aging infrastructure**.
Welders Are Everywhere

- Military
- Aircraft and Aerospace Industry
- Building Construction
- Automotive Industry
- Bridge/Highway Construction
- Shipbuilding Industry
- Universities and Schools
- Safety Products

- Boiler Industry
- Medical Industry
- Mining Industry
- Robotics and Computer Engineering
- Farming Equipment Manufacturers
- Job Shops
- Specialty Gases
- Consumer Electronics
Industrial Sectors Using Welding

Heavy Industrial Manufacturing
- Construction and Mining Machinery
- Farm Machinery and Equipment
- Shipbuilding and Repair
- Railroad Rolling Stock
- Armored Vehicles
- Engine, Turbine & Power Transmission
- Power Boiler, Heat Exchanger, Tank
- Industrial Machinery
- Oil and Gas Field

Light Industrial Manufacturing
- Industrial Tractors
- Industrial Tools
- Heating and Ventilation
- Household Appliances
- Steel Furniture
- Industrial Equipment

Construction
- Industrial Buildings
- Commercial Buildings
- Bridges and Tunnels
- Refineries, Pipelines
- Electric Power Plants
- Structural Steel Erection
- Fabricated Structural Metal Products

Automotive
- Vehicle Manufacturing
- Automotive Systems and Parts
- Cycle Manufacturing
- Automotive Repair Services

Aircraft and Aerospace
- Aircraft Manufacturing
- Aircraft Engines and Engine Repair
- Aircraft Parts and Auxiliary Equipment
- Guided Missiles
- Space Vehicles
Welding Industry Careers

- Welder
- Materials Engineer
- Welding Engineer
- Robotics Technician
- Welding Technician
- Business Owner
- Salesperson
- Structural Iron Worker
- Sheet Metal Worker
- Underwater Welder
- Welding Educator
- Metallurgist
- Researcher
- Welding Inspector
- Machine Operators
- Pipefitter
- Boilermaker

And Many, Many More!
**Certificate Options**

- Professional Engineer (ABET, ASPE)
- Certified Welding Engineer
- Certified Welding Supervisor
- Certified Welding Fabricator
- Certified Robotic Arc Welder
- Certified Radiographic Interpreter
- Certified Welding Inspector
- Certified Welder

**Course Options (Degrees)**

- Engineer (B.S.)
- Technician (Engineering Technology)
- Specialist
- Inspector
- Welder (HS Graduate)

Career Ladder

- $150,000
- $140K
- $120K
- $100K
- $80K
- $60K
- $80K
- $60K
- $80K
- $60K
Salaries for welders are on the rise due to the shortage of skilled workers.

Salaries for welding-related jobs vary depending on the type of employer, welding specialty, job duties, experience level and location.

Pay and benefits vary widely between union and non-union employment.

Some employers provide internships and paid apprenticeship programs for various levels of work, including beginners.

*Entry Level Welder  $20,000 +
*Advanced Welder  $40,000 +
*Welding Engineers  $60 - $100,000

*From the U.S. Department of Labor and salary.com / 2006
How Can You Earn Even MORE $$?

• Get AWS certified!
• Continue your education through AWS coursework, seminars and advanced certifications
• Expand your knowledge of processes and keep updated on new and emerging technologies
• Earn a 2-year welding technician degree or a 4-year welding engineering degree from a Community College or University
• **PRACTICE! PRACTICE! PRACTICE!**
JOIN WELDING!
INSPIRE, CREATE,
BUILD A BETTER WORLD!
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