

Industry Works – Job Descriptions

Operations:

- **Process Operator | Education: Associate's Degree | Median 2016 Salary: \$71,627**
Process operators control, monitor and maintain the machines and equipment necessary to produce, refine and pump chemicals, oil, gas or petroleum. In most cases, the equipment is controlled by computer. It is the responsibility of the process operators to set the controls, monitor levels, observe gauges and check for malfunctions. Process operators must also maintain accurate records and provide reports as needed.
- **Lab Technician | Education: Associate's Degree | Median 2016 Salary: \$59,094**
Lab technicians are responsible for monitoring chemical processes and testing products as part of quality assurance. They set up lab equipment, prepare chemical solutions, conduct tests, interpret and analyze data, compile results and prepare reports. Most of a lab technician's time is spent in the laboratory but it is common to go out into the facility to collect samples as needed.

Maintenance:

- **Millwright | Education: Post-Secondary Training | Median 2016 Salary: \$50,570**
Millwrights working in factories, power plants and other industrial settings to move, assemble, install or dismantle machinery. This job requires the understanding of how different machines work as well as the ability to read detailed, technical plans. Millwrights take apart, categorize and store old equipment as well as analyze plans for new equipment. Core skills for this job are: mechanical aptitude, physical strength, technical skills, and troubleshooting skills. Millwrights require on-the-job training as an apprentice and have a certification process which an employer may or may not require.
- **Machinist | Education: Post-Secondary Training | Median 2016 Salary: \$40,057**
Machinist set up and operate a variety of machines to produce precision metal parts. It is the machinist's responsibility to ensure the product meets all specifications by reviewing blueprints for a job, selecting the appropriate tools, planning the sequence of cutting and finishing, monitoring and controlling the feed rate, regulating temperature of the workpiece, adjusting cutting speed as needed and checking accuracy of the work against blueprints. Machinist use both manual and computer-controlled machinery and must be able to troubleshoot and modify in response to the problem.
- **Pipefitter | Education: Post-Secondary Training | Median 2016 Salary: \$52,793**
A pipefitter attaches pipes to walls, structures and fixtures, such as radiators or tanks, using brackets, clamps, tools or welding equipment. They must measure and mark pipes for cutting, threading and welding. Pipefitters plan piping system layouts, installations or repairs according to specifications. They inspect work sites for obstructions and structural soundness as well as test installed systems using pressure gauges, hydrostatic testing, observation and other methods. Pipefitters require on-the-job training as an apprentice and require a license.
- **Pipefitter Helper | Education: High School Diploma or Equivalent | Median 2016 Salary: \$34,984**
Pipefitter helpers assist in all stages of the pipefitting process. This includes planning, layout, installation, testing and repair of piping systems. They are usually employed on a contractual

basis and work under the supervision of a pipefitter. Core skills for this position include: analytical thinking, problem solving, great communication skills, initiative, the ability to take directions and organization.

- **Welder | Education: Post- Secondary Training | Median 2016 Salary: \$51,649**
A welder takes various metal components and using intense heat to form them together to form a final product. In addition to operating and maintaining multiple types of welding machinery, welders read and interpret diagrams, sketches and blueprints to determine operations, required materials and timeframes. Welding positions can be found in both skilled (experience using multiple machines) or unskilled (repetitive tasks such as an assembly line) environments. Welders do require some form of post-secondary training and offer ample on-the-job training.
- **Boilermaker | Education: High School Diploma or Equivalent | Median 2016 Salary: \$63,474**
Boilermakers assemble, install and repair boilers, closed vats and other large vessels or containers that hold liquids and gases. After analyzing blueprints, a boilermaker may install small, premade boilers using manually operated tools or assemble larger tanks using robotic or automatic welders. It is also their responsibility to test and inspect boiler systems, clean vats and replace and repair parts as needed. Most boilermakers require an apprenticeship and all are required to complete the licensing process.
- **Electrician | Education: Post-Secondary Training | Median 2016 Salary: \$50,520**
In an industrial setting, electricians are responsible for keeping production and manufacturing equipment running smoothly. This typically includes the installation of new electrical systems, troubleshooting problems with equipment, repairing and maintaining existing equipment and keeping accurate record. Electricians have knowledge of calibrating and maintaining circuitry, reading and interpreting wiring and electrical codes as set forth by state or federal regulatory bodies. Core skills for this position include: problem solving, troubleshooting, analytical and critical thinking capabilities. Most employers require an apprenticeship and a journeyman electrician's license.
- **Electrician Helper | Education: High School Diploma or Equivalent | Median 2016 Salary: \$30,280**
Electrician's Helpers are responsible for providing assistance to Electricians by performing support duties. This position requires less skill than an Electrician and, in some cases, can be a part of on-the-job training. In addition to assisting the Electrician in his or her duties, a Helper may measure, cut, and prepare wire and other materials prior to installation, test circuits, examine electrical units for broken connections, dig trenches or holes for installation of conduits, and perform other unskilled or semi-skilled tasks as instructed.
- **Instrument Technician | Education: Associate's Degree | Median 2016 Salary: \$61,331**
Instrument Technicians are primarily responsible for monitoring atmospheric and environmental changes in industrial areas. Using a variety of devices, Instrument Technicians test, calibrate, install, repair and inspect monitoring equipment. Strong mathematical skills are a solid foundation for employees in this position. Other skills are the ability to problem solve, think critically and analytically and make clear, concise judgements. As it is also the Instrument Technicians job to record and report changes, excellent written and verbal communication skills are also required.

Professional:

- **Engineers | Education: Bachelor's Degree**

In general, Engineers work with large-complex systems. This profession requires strong skill in mathematics, creativity, mechanical processes, complex problem solving, teamwork and project management. Regardless of which sector chosen, all engineers in Louisiana are required to be licensed by the Louisiana Professional Engineering and Land Surveying Board. There are several types of engineers:

- **Civil Engineer | Median 2016 Salary: \$94,286**

Civil Engineers create and improve the world in which we live. They are responsible for construction and maintenance of building structures and infrastructure, such as roads, bridges, railways, irrigation systems, etc. Since this job requires engaging in every aspect of construction – safety, budgeting, regulatory standards, etc., most Civil Engineers specialize in a sub-discipline, such as construction, geotechnical, transportation or environmental.

- **Chemical Engineer | Median 2016 Salary: \$111,671**

Chemical Engineers research, develop and manufacture chemicals, drugs, fuels, food and various other products. Building on existing chemistry principles, Chemical Engineers develop experiments and test products to determine quality and safety. A strong background

- **Electrical Engineer | Median 2016 Salary: \$92,241**

Electrical Engineers evaluate and design electrical systems, products and components by developing and conducting research programs.

- **Environmental Engineer | Median 2016 Salary: \$97,684**

Environmental Engineers use their knowledge of engineering, soil science, biology and chemistry to develop solutions to environmental problems. By designing facilities and control systems that help eliminate waste, Environmental Engineers help manufacturing facilities remain in compliance with state and federal regulations.

- **Industrial Engineer | Median 2016 Salary: \$107,522**

Industrial Engineers are responsible for streamlining production processes by designing systems that successfully integrate workers, machines and materials to make a product. This position also includes implementing cost analysis and quality inspection controls as well as ensuring that companies meet product requirements.

- **Mechanical Engineer | Median 2016 Salary: \$104,015**

Mechanical Engineering is one of the broadest engineering principles. Professionals in this position research, design, develop, build and test mechanical and thermal devices. From electric generators to conveyor systems, mechanical engineers use computers extensively to design or re-design many devices and tools.

- **Accounting/Finance | Education: Associate's Degree | Median 2016 Salary: \$36,132**

There are many accounting and finance jobs within refineries and manufacturing facilities. With a proper degree, jobs like payroll, timekeeping, accounts payable, finance analyst or project accountant would be a great fit.

- **Environmental/Health/Safety | Education: Bachelor's or Associate's Degree**

- **Environmental Scientist/Specialist | Education: Bachelor's Degree | Median 2016 Salary: \$64,064**

Environmental scientists and specialists use their knowledge of the natural sciences to protect the environment and human health. They may clean up polluted areas, advise policymakers, or work with industry to reduce waste.

- **Occupational Health and Safety Specialist | Education: Bachelor's Degree | Median 2016 Salary: \$76,501**
Occupational health and safety specialists analyze many types of work environments and work procedures. Specialists inspect workplaces for adherence to regulations on safety, health, and the environment. They also design programs to prevent disease or injury to workers and damage to the environment.
- **Health and Safety Engineers | Education: Bachelor's Degree | Median 2016 Salary: \$87,771**
Health and safety engineers develop procedures and design systems to prevent people from getting sick or injured and to keep property from being damaged. They combine knowledge of systems engineering and of health or safety to make sure that chemicals, machinery, software, furniture, and consumer products will not cause harm to people or buildings.
- **Drafters | Education: Associate's Degree | Median 2016 Salary: \$63,904**
Drafters use software to convert the designs of architects and engineers into technical drawings and plans. Workers specialize in architectural, civil, electrical, or mechanical drafting and use technical drawings to help design everything from microchips to skyscrapers.

**Median 2016 Salary information comes from the Short Term Projections for All Occupations to 2018 report for the Lake Charles – Southwest – Regional Labor Market Area 5.*