

## Career connections

### Chemical/Process Engineering

**Description:** Chemical engineers apply the principles of chemistry, biology, physics, and math to solve problems that involve the production or use of chemicals, fuel, drugs, food, and many other products. They design processes and equipment for large-scale manufacturing, plan and test production methods and byproducts treatment, and direct facility operations.

Chemical engineers work mostly in offices or laboratories. They may spend time at industrial plants, refineries, and other locations, where they monitor or direct operations or solve onsite problems. Nearly all chemical engineers work full time.

**Education required:** Chemical engineers must have a bachelor's degree in chemical engineering or a related field. Employers also value practical experience. Therefore, internships and cooperative engineering programs can be helpful.

### Paper Engineering

**Description:** Paper Engineering is a highly specialized field that exists within the Materials Engineering discipline and is focused on the transformation of raw lumber and bark into useful writing, packaging and other products. The paper science and engineering program combines elements of chemical engineering, environmental science and business management to convert trees into everyday products from shipping and packaging materials to household items and medical supplies.

Paper Engineers are actively involved in all the processes surrounding Paper Engineering, from managing recycling of paper to deal with the large waste generated by paper products and also in forest management schemes to ensure the natural balance of trees remains.

**Education required:** Paper engineers must have a bachelor's degree in paper science and engineering or a related field. Employers also value practical experience. Therefore, internships and cooperative engineering programs can be helpful.

### Biochemistry and biophysics

**Description:** Biochemists and biophysicists study the chemical and physical principles of living things and of biological processes, such as cell development, growth, heredity, and disease. Biochemists and biophysicists typically work in laboratories and offices to conduct experiments and analyze the results. Most work full time.

**Education required:** Biochemists and biophysicists need a Ph.D. to work in independent research and development. Many Ph.D. holders begin their careers in temporary postdoctoral research positions. Bachelor's and master's degree holders qualify for some entry-level positions in biochemistry and biophysics.

## Job opportunities

1) **Position:** Senior Process Engineer

**Company:** Jupeng Bio

**Description:** “Jupeng Bio is an exciting new business that is commercializing a highly innovative technology platform for the production of clean biofuel and renewable power from a wide range of low-cost carbon materials including household waste”

**Experience required:**

- Process engineering experience 15 years minimum in a chemical plant/project environment.
- Degree in Engineering (Chemical, Process or comparable)
- Professional engineering accreditation (preferred).
- Project and design experience with equipment and instrumentation typically found in a chemical plant.

**Link:** <https://www.indeed.com/jobs?q=Chemical%20Engineer%20fermentation&l&advn=5510188392098152&vjk=4d4ca6fdf6192231>

2) **Position:** Fermentation engineer

**Company:** Growing Biotech

**Description:** “Growing Biotech company in San Francisco has a need for a Sr. Fermentation Engineer. This is a full time position with a full benefits package.”

**Experience required:**

- M.S. in chemical engineering or related field, OR B.S. with 2 years of experience OR Associates with 5 years of experience \*
- Technical knowledge in development, implementation and optimization of fermentation processes preferred \*
- Technical knowledge downstream processing unit operations including centrifugation, MF/UF, column chromatography, lyophilization, and spray drying preferred \*
- Experience with design of experiment, statistical analysis, and modeling preferred \* Self-starter with strong organizational, and general communication skills. \*
- Comfortable working within a small, collaborative team, passionate about changing the food space \*
- Able and willing to travel as necessary (domestic and international) \*

**Link:** <https://www.indeed.com/cmp/PLI/jobs/Fermentation-Engineer-9551f71228d8419c?q=Chemical+Engineer+fermentation&vjs=3>

3) **Position:** Project Engineer – Pulp & Paper

**Company:** Georgia-Pacific

**Description:** “Georgia-Pacific’s Consumer Products Group is searching for an experienced **Project Engineer** to support and lead Pulp & Paper projects at the Broadway Mill in **Green Bay, WI.**”

**Experience required:**

- Bachelor’s Degree in Engineering
- Four (4) or more years of experience in manufacturing operations
- Experience collaborating with multiple levels within an organization, including contractors, corporate project teams, and senior management
- Must be able and willing to work in an industrial manufacturing plant environment, including periods of time in noisy, dusty, non-air conditioned or unheated areas

**Link:** <https://www.indeed.com/q-Pulp-Paper-Engineering-jobs.html?advn=1857890247942712&vjk=6ad38b337e819224>



4) **Position:** Pulp Mill Production Supervisor

**Company:** Resolute Forest Products

**Description:** “Our Calhoun location in Tennessee, United States is currently seeking talent to fill the position of Pulp Mill Production Supervisor. This job is permanent, full-time.”

**Experience required:**

- Five years KM experience or Process engineering or Bachelor of Science degree in Engineering, (Chemical or Pulp & Paper engineering preferred) with strong operational background with demonstrated computer and technical skills.
- Strong interpersonal skills with the ability to communicate with peers, supervisors, and subordinates on a wide range of issues and across departmental lines.
- Must be a team player able to balance priorities to meet short and long term objectives with constrained resources from maintenance, plant engineering, or process engineering.
- Must be experienced in PI, Proficy and Excel programming for use in reporting and trouble shooting process problems.

**Link:** <https://www.indeed.com/q-Pulp-Paper-Engineering-jobs.html?advn=7260070491875898&vjk=f72e87088d6f4cf1>

## References

1. Bureau of Labor Statistics: <https://www.bls.gov/ooh/architecture-and-engineering/chemical-engineers.htm>
2. North Carolina State University, Department of Forest Biomaterials: <https://cnr.ncsu.edu/fb/undergraduate/degree-programs/paper-science-and-engineering/>
3. What is engineering?: <http://whatisengineering.com/topic/what-is-paper-engineering/>
4. Bureau of Labor Statistics: <https://www.bls.gov/ooh/life-physical-and-social-science/biochemists-and-biophysicists.htm>