

Power Systems Engineer

Plan and protect the grid: the substations, transmission lines and controls that keep the lights on.

TYPICAL PAY

\$120,630

a year, full time

PAY RANGE

\$77k to \$184k

starting to experienced

TIME TO QUALIFY

4 to 8 years

after high school

DEMAND

Very high

job outlook

LICENCE NEEDED

No

anyone can do it

WHERE YOU WORK

Utilities, grid operators, consulting firms, renewable developers

How you get there

- 1 High school diploma** Grade 12
Calculus and physics decide whether first year is possible. Take both as far as your school allows.
- 2 Bachelor's degree in electrical engineering** 4 years
Pick a program accredited by ABET (the Accreditation Board for Engineering and Technology) and take every power, machines and contro...
- 3 Internship or co-op at a utility** During college
A summer in a substation design group or a protection group. This is how almost everyone gets a first offer.
- 4 Fundamentals of Engineering exam** Senior year
A 6-hour computer-based exam of 110 questions, taken in your senior year or just after. You choose the Electrical and Computer version,...
- 5 First engineering job** Straight after graduating
Substation design, protection and relaying, transmission planning, or interconnection studies for wind and solar projects.
- 6 Professional Engineer license** 4 more years
About four years of work under a licensed engineer, then the Principles and Practice of Engineering exam in Power, then a license from you...

Pros and cons

- + High pay from the first year, no graduate school needed
- + Work that visibly matters when the power stays on
- + Utilities are stable employers with pensions and steady hours
- The degree is genuinely hard and a lot of people switch out
- Utility culture is slow and heavy with process
- Storm duty and outage support can wreck a weekend

Good to know

The country runs on three grids, not one

The lower 48 states are covered by the Eastern Interconnection, the Western Interconnection, and a third grid that is almost entirely inside Texas and run by ERCOT (the Electric Reliability Council of Texas). Th...

Electricity is made and used in the same instant

The grid stores almost nothing. Generation has to match demand second by second, everywhere at once, or the frequency drifts and equipment trips offline. Batteries are changing this, slowly.

Optional boosts

Protection and relaying. Transmission planning. Renewable interconnection studies. Power electronics and high voltage direct current.

Where these numbers come from

My Next Move: Electrical Engineers (17-2071.00)

NCEES: Fundamentals of Engineering exam

ABET: accreditation

Georgia Tech School of Electrical and Computer Engineering

Numbers checked September 2026. Pay figures are typical full-time annual amounts in United States dollars, based on Bureau of Labor Statistics wage data and published pay scales. They vary by state, employer and experience. Tuition is for in-state students at public schools unless the card says otherwise. Sources, links and the click-through version: <https://career.help/us/careers/power-systems-engineer>



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