

0855 – Electronic Engineering (Cybersecurity)

Major Duties Required for This Position May Include:

- Designs, fabricates, and implements electronic systems and components for the purpose of developing new engineering controls exposure systems.
- Utilizes in-depth knowledge of professional electronics engineering, electrical engineering and/or computer engineering.
- As a cyber technical specialist, design and development engineering for critical systems and devices.
- Operate and maintain existing hardware and software infrastructure supporting the CDC data modernization initiative.

Related Competencies

- Engineering and Technology
- Software Engineering
- Computer Skills
- Data Management

Basic Requirements

Successful completion of a degree in engineering. To be acceptable, the program must:

- Lead to a bachelor's degree in a school of engineering with at least one program accredited by the Accreditation Board for Engineering and Technology (ABET); or
- Include differential and integral calculus courses (more advanced than first-year physics and chemistry) in five of the following seven areas of engineering science or physics:
 - Statics, dynamics
 - Strength of materials (stress-strain relationships)
 - Fluid mechanics, hydraulics
 - Thermodynamics
 - Electrical fields and circuits
 - Nature and properties of materials (relating particle and aggregate structure to properties)
 - Any other comparable area of fundamental engineering science or physics, such as optics, heat transfer, soil mechanics, or electronics.

Or

A combination of education and experience - college-level education, training and/or technical experience that furnished.

- A thorough knowledge of the physical and mathematical sciences underlying professional engineering, and
- A good understanding, both theoretical and practical, of the engineering sciences and techniques and their applications to one of the branches of engineering.

The adequacy of such background must be demonstrated by one of the following:

1. **Professional registration or licensure** - Current registration as an Engineer Intern (EI), Engineer in Training (EIT), or licensure as a Professional Engineer (PE) by any State, the District of Columbia, Guam, or Puerto Rico. Absent other means of qualifying under this standard, those applicants who achieved such registration by means other than written test (e.g., State

grandfather or eminence provisions), are eligible only for positions that are within or closely related to the specialty field of their registration.

2. **Written Test** - Evidence of having successfully passed the Fundamentals of Engineering (FE) examination or any other written test required for professional registration by an engineering licensure board in the various States, the District of Columbia, Guam and Puerto Rico.
3. **Specified Academic Courses** - Successful completion of at least 60 semester hours of courses in the physical, mathematical, and engineering sciences and that included the courses specified in the basic requirements. The courses must be fully acceptable toward meeting the requirements of an engineering program as described in A above.
4. **Related Curriculum** - Successful completion of a curriculum leading to a bachelor's degree in an appropriate scientific field, (e.g., engineering technology, physics, chemistry, architecture, computer science, mathematics, hydrology, or geology, may be acceptable in lieu of a bachelor's degree in engineering, provided the applicant has had at least 1 year of professional engineering experience acquired under professional engineering supervision and guidance. Ordinarily there should be either an established plan of intensive training to develop professional engineering competence, or several years of prior professional engineering-type experience, e.g. in interdisciplinary positions. (The above examples or related curricula are not all-inclusive.)

Minimum Qualifications

In additions to meeting the basic requirements above, applicants must meet the minimum qualifications requirement as defined below:

GS-12 Specialized Experience Requirements

You must have one year of specialized experience at a level of difficulty and responsibility equivalent to the GS-11 grade level in the Federal Service. Specialized experience for this position includes:

- Conducts advanced electronics engineering analysis and synthesis of systems which requires application of complex, innovative investigative techniques.
- Design and development engineering for critical systems and devices.

Note: There is no substitution of education for specialized experience at the GS-12 level.

GS-13 Specialized Experience Requirements

You must have one year of specialized experience at a level of difficulty and responsibility equivalent to the GS-12 grade level in the Federal Service. Specialized experience for this position includes:

- Designs and recommends electronic equipment specifications required to support the engineering control and technology environment and its solutions.
- Provides projections to meet organizational mission, including production, installation, maintenance, upgrades, and development.

Note: There is no substitution of education for specialized experience at the GS-13 level.

GS-14 Specialized Experience Requirements

You must have one year of specialized experience at a level of difficulty and responsibility equivalent to the GS-13 grade level in the Federal Service. Specialized experience for this position includes:

- Designs, develops, and constructs new electronic systems or components.
- Modifies existing electrical circuitry to incorporate new components, systems, or functions.
- Operate and maintain existing hardware and software infrastructure.

Note: There is no substitution of education for specialized experience at the GS-14 level.

GS-15 Specialized Experience Requirements

You must have one year of specialized experience at a level of difficulty and responsibility equivalent to the GS-14 grade level in the Federal Service. Specialized experience for this position includes:

- Plans and conducts analytical studies of components or systems.
- Designs and/or modifies computerized programs to capture analog data from multiple sensors.
- Design and development engineering for critical systems and devices.

Note: There is no substitution of education for specialized experience at the GS-15 level.

Experience refers to paid and unpaid experience. Examples of qualifying unpaid experience may include volunteer work done through National Service programs (such as Peace Corps and AmeriCorps), as well as work for other community-based philanthropic and social organizations. Volunteer work helps build critical competencies, knowledge, and skills; and can provide valuable training and experience that translates directly to paid employment. You will receive credit for all qualifying experience, including volunteer experience.