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Electronics Engineer (Development) 13

GS-0855-13

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I. INTRODUCTION

Serves as an electronics engineer providing expert subject matter knowledge and professional engineering expertise to a project or team involved in the design, development, testing, evaluation or experimentation of various types of advanced electronics technology, processes and systems.

II. MAJOR DUTIES AND RESPONSIBILITIES

The engineer is typically involved in: providing subject-matter expert level technical advice and analysis; conducting advanced engineering analysis, experimentation, evaluation and development of equipment, instrumentation, materials and processes and/or performing experimental and investigative activities designed to develop new and improved equipment which advances the state of current communications potential and technology.

Typically such duties involve serving as a technical expert on microprocessor hardware and software applications in data acquisition and monitoring instrumentation; organizing and directing the development of advanced instrumentation systems electronics; developing systems/processes used in autonomous recording instruments; documenting hardware and software development; and/or developing alternative methods to perform routine functions (incorporating state-of-the art electronics).

The engineer also may act as a project leader in experimental projects involving the measurement of physical, environmental and electromagnetic phenomenon (e.g. radio, atmospheric, hydrological and hydrographic data); analyzes acquired statistical data in developing modeling and other techniques and methods applicable to systems development, maintenance and modification; resolves intricate data acquisition problems in the lab as well as in the field; and develops software for the automated collection of data for real-time data acquisition.

III. FACTORS LEVELS

Factor I - Nature of Assignment Degree D (4 points)

The engineer acts as a recognized technical expert in a specialized electronics engineering area, or as a Project Leader for state-of-the-art studies. The engineer is involved in assignments which provide expert technical support to the organization, other agencies and private industry in technical electronics and related engineering questions of varying breadth and scope. Such studies typically focus on areas such as: the definition, planning and execution of projects involving theoretical analysis, electronics systems implementation; theoretical modeling and simulation; and/or issues in data/telecommunications and electromagnetic spectrum characteristics.

The engineer provides expert advice and support to the organization, other agencies and private industry involved in related communications electronics activity. These efforts assist important future equipment and theoretical development requiring the use of advanced techniques, methods and procedures.

The work represents development efforts that advance the state-of-the-art technology in such areas as: spectrum utilization/measurement, data acquisition, radio wave propagation, and data and telecommunications

systems.

Factor II - Supervision Received Degree D (4 points)

The engineer receives only administrative supervision and is free to pursue whatever is deemed necessary within the scope of the organization's mission and project objectives. The engineer does not have the authority to start and stop projects of his/her own volition, as such funding and budget determinations are made elsewhere.

Factor III - Guidelines and Originality Degree D (4 points)

Guidelines consist of theoretical work, research and development studies, industry practices and systems specifications but are inadequate, controversial and/or contain critical gaps because the work is innovative, theoretical or has limited precedents.

The position requires unusual creativity and critical judgment in the role of technical electronics expert as well as in the application and use of advanced electronics techniques. The work represents development efforts that advance the state-of-the-art technology in such areas as: spectrum utilization/measurement, data acquisition, radio wave propagation, and data and telecommunications systems.

Factor IV - Qualifications and Contributions Degree D (8 points)

The engineer is a recognized expert in a highly specialized electronics engineering activity (e.g. real time automated data gathering, systems simulation and modeling, automated software monitoring, data/telecommunications equipment development or spectrum analysis), and/or serves as a Project Leader for state-of-the-art studies, providing significant contributions on broad major issues, focusing on the definition, planning and execution of projects involving theoretical analysis and technique development.

The engineer may represent the agency on national and international committees exploring such issues as electronics communication equipment research and development, radio wave spectrum characteristics, wave propagation, telemetry, electromagnetic influences, measurements of physical, environmental and electromagnetic phenomenon (e.g. radio, atmospheric, hydrological and hydrographic data) and other areas of specialized electronics engineering work.

The purpose of such work is to provide technical support to the organization, other agencies and private industry in technical questions of increased breadth and scope. These efforts represent a springboard for important future development and critical sound judgment is required in the use of advanced techniques in an applications and equipment development setting.

TOTAL= 20 pts

This position is exempt from coverage under the Fair Labor Standards Act.

IV. UNIQUE POSITION REQUIREMENTS

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