

ELECTRONICS TECHNICIAN III

DESCRIPTION OF WORK

This is skilled work in the maintenance and repair of complex electronic systems and developmental work in the modification and design of electronic devices.

Employees in this class consult with faculty members desiring the construction of electronic teaching or research devices to determine project parameters. They design and construct specialized one-of-a-kind electronic devices. Design work is differentiated from that of the Electronics Technician II level by less reliance on standard circuitry and modification to it, and more reliance on the utilization and modification of standard circuitry to perform special or unusual functions. Maintenance and repair are performed on devices designed and on electronic systems where troubleshooting difficulties are compounded by individual, complex devices which are interconnected. Documentation in the form of schematic diagrams, wiring diagrams, or repair manuals is often fragmented or non-existent. Work is evaluated through the effectiveness of projects designed and constructed, and analysis of equipment reliability. Work is performed under administrative supervision.

EXAMPLES OF DUTIES PERFORMED

Confers with faculty desiring electronic equipment to aid in research or teaching, determines the purpose of the needed device and any operating parameters. Designs, constructs, and evaluates the devices.

Modifies standard and non-standard electronic devices to improve performance or to customize them for special use.

Confers with faculty desiring to purchase electronic equipment, recommends type and evaluates equipment upon arrival.

Troubleshoots and repairs electronic systems made up of complex interconnected electronic devices.

Operates standard and specialized test equipment.

Determines circuit configuration and function of complex electronics systems in the absence of documentation.

Evaluates and installs electronic systems.

Maintains an inventory of electronic replacement parts.

Recommends additional shop equipment or replacement equipment to immediate supervisor.

Compiles a library of technical literature, reads same to keep electronics knowledge up to date.

May supervise lower-level helpers.

Performs related duties as required.

RECRUITMENT STANDARDS

Knowledges, Skills, and Abilities

Considerable knowledge of electronic principles.

Considerable knowledge of mathematical principles as applied to electronic circuit analysis.

Working knowledge of the fundamentals of physics as applied to electronics.

Working knowledge of the uses of standard and specialized electronic testing equipment.

Ability to modify electronic circuits or design electronic circuits to perform standard functions under varying parameters.

Ability to perform maintenance on non-standard equipment and complex electronic systems which are often not well documented.

Ability to develop innovative electronics troubleshooting and testing procedures.

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OSP Rev. 08/11

Ability to read and comprehend electronics periodicals and textbooks on electronics advances and apply new theories and components to design projects.

Minimum Education and Experience

Associate's degree in electronics from an appropriately accredited institution and two years of progressive experience in the repair and maintenance of complex electronic systems including some responsibility for the design of electronic apparatus; or an equivalent combination of training and experience.