Position Title: **Senior Engineer**  
Division: Engineering and Software Services  
FLSA Status: Exempt

**Basic Function:**

In support of the STScI mission and the ESS contribution to that mission, a Senior Engineer provides engineering support for the operation of the Science Instruments (SI). Provides work direction and technical guidance to less senior engineers.

**Minimum Qualifications:**

*Knowledge, Skills, and Abilities:*

- Fluent knowledge in digital and analog electronics, circuit and system analysis, control systems and hardware and software design.
- Working knowledge of a high level or scripting language such as C, C++, and Visual Basic.
- Fluent knowledge in a computer operating system such as NT, and Unix.
- Working knowledge of data analysis techniques.
- Fluent knowledge of scientific instrument technology.
- Basic knowledge of astronomical techniques, optical techniques and space technology is desirable.
- Excellent verbal and written communication skills and presentation skills.
- Self-starter who works with minimal supervision, has strong leadership skills, and can interface effectively.

A **basic** level of expertise can be accomplished through the successful completion of a course in a specific area or a curriculum in a general field. This level would be assigned to someone who understands the basic topics, principles or practices within an area but has not practiced these principles in a non-class environment.

A **working** level of expertise can be accomplished through the successful completion of a curriculum in an area. This level would be assigned to someone who understands complex topics, principles or practices within an area but has not practiced these principles in a non-class environment.

A **fluent** level of expertise would be assigned to someone who understands the complex topics, principles or practices of an area and has demonstrated their competency through the completion of a small number (e.g. 3-4) of medium-sized to large-sized projects in a formal software development environment.

* Substitution of relevant education or experience for stated qualifications may be considered.
Education

- Bachelor’s Degree in an Engineering discipline or other technically related field. Master’s degree highly desirable.

Experience:

- Minimum of five to eight years experience in the design, operations and maintenance of engineering or scientific instruments, preferably in an astronomical observatory or aerospace environment. Prior experience in coordinating and directing the work of peers is desirable.

Duties and Responsibilities:

A Senior Engineer will:

- Recommend changes to ground and flight software.
- Interface with HST Project on spacecraft and SI anomalies.
- Support Instrument Scientists in analysis of science data to detect anomalies or degradation of instruments.
- Prepare or verify technical updates to yearly “Call for Proposals”.
- Support on-call activity in response to spacecraft anomalies.
- Keep informed of Spacecraft problems and understand the work-around.
- Keep informed on special spacecraft attitudes and understand thermal impacts.
- Investigate failed or degraded observations that are related to instrument performance.
- Design and supervise instrument engineering tests and analysis of engineering test data.
- Trend routine engineering telemetry.
- Analyze engineering data trends to detect anomalies or degradation affecting science.
- Assist and consult on in detecting and correcting commanding problems.
- Analyze and supervise processing of engineering telemetry to detect anomalies or degradation affecting science.
- Design engineering telemetry trending and analysis tools.
- Supervise engineers in extraction of specified engineering data for Instrument Scientists and Observers.
- Support testing and verification of new instruments.
- Support and report on overall development of science instruments.
- Inform the STScI on engineering related SM issues.
- Support SMOV planning and SI engineering tests.
- Support Simulations, Joint Integrated Simulations, and servicing mission activities.
- Generate and supervise engineers in engineering proposals.
- Perform other related duties as may be required.