

JOB INFORMATION

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|-------------------------|---|
| Effective Date | 1/18/2023 |
| Job Code: | 0496 |
| Job Title: | Human Factors Engineer |
| Salary Grade/Structure: | 999 - Admin-Professional |
| Career Level Name: | P3 - Senior Professional |
| FLSA Name: | Exempt |
| EEO Code: | |
| Job Function: | |
| Job Family: | |
| Job Summary | The Human Factors Engineer will be within the Human Factors and System Management team, which supports the Habitability and Human Factors Branch at NASA’s Johnson Space Center in Houston, Texas. This team provides research, analysis, evaluation and usability testing of hardware and software crew interfaces for cockpits, habitats, spacesuits, and equipment. This includes computer displays and controls, workstation systems, and other types of crew interfaces. The group has a unique capability with a staff experienced in the rigors of both cognitive human factors and ergonomic research and evaluations. The candidate will mainly support to the Gateway Program, but also become involved in other projects like Orion. Exploration activities consist of providing support to the design and development of the human-system interfaces, including requirements interpretation and verification planning and testing, task analysis, human error analysis, and iterative crew evaluations. This position is in support of the Human Health and Performance Contract at NASA-JSC. |

COMPETENCIES

Competencies

Please refer to the [UHCL Human Resources webpage](#) for UHCL core competencies for all eligible job levels.

QUALIFICATIONS

Education

| Education Level | Education Details | Required/Preferred | |
|-----------------|---|--------------------|--|
| Master's Degree | Master’s degree in human factors, cognitive psychology, human-centered design, or closely related technical discipline. | Required | |

Work Experience

| Experience | Experience Details | Required/Preferred | |
|-----------------|---|--------------------|--|
| Considerable | Candidate must have 8 years of related experience and demonstrated skills in research/experimental design, task and error analysis, Human-in-the-Loop (HITL) testing, statistical analysis, and report writing. | Required | |
| Less than 3 yrs | Experience with requirements development and verification is desired. Experience with development of and human interaction with autonomous | Preferred | |

Work Experience

| Experience | Experience Details | Required/ Preferred | |
|------------|--|------------------------|--|
| | and information systems is desired. Prior experience with NASA, ISS, Orion, or related work, is desired as well. | | |

Licenses and Certifications

| Licenses/Certifications | Licenses/Certification Details | Time Frame | Required/ Preferred | |
|-------------------------|--------------------------------|------------|------------------------|--|
| | | | | |

Knowledge, Skills and Abilities

| KSAs | Proficiency |
|---|-------------|
| <ul style="list-style-type: none"> The qualified applicant must have excellent oral and written communication skills, and comfort interacting with and influencing stakeholders in all roles and levels of the organization. | Skilled |
| <ul style="list-style-type: none"> The ability to work effectively both in small teams and independently is also required. | Skilled |
| <ul style="list-style-type: none"> A successful candidate will have excellent interpersonal skills, and the ability to work successfully in a multidisciplinary team as well as flexibility to adapt quickly to changing requirements. | Skilled |
| <ul style="list-style-type: none"> The candidate must be able to handle a variety of work expectations, be a 'go-getter' and be able to work independently after initial training as well as collaboratively. | Skilled |
| <ul style="list-style-type: none"> Familiarity with industry standards (e.g., MIL-STD-1472, NASA-STD-3001). The candidate should possess the ability to effectively interact with customers at all levels. | Skilled |

JOB RESPONSIBILITIES

Campus Security Authority

Remote Work Capable

Essential Functions

| Essential Function | % TIME |
|--|--------|
| <ul style="list-style-type: none"> Apply human performance principles, methodologies, and technologies to the design of human-system interfaces. | 10% |
| <ul style="list-style-type: none"> Identify and analyze technological problems or risks, perform theoretical human factors investigations, and develop and implement evaluation and analysis plans. | 10% |
| <ul style="list-style-type: none"> Develop and implement evaluation methodologies and statistical analysis plans to test and assess developmental prototypes used in new products and processes, such as cockpit designs, user workstations, and computerized human models. | 10% |
| <ul style="list-style-type: none"> Interface with design engineers to establish system design, operating, and training requirements and to ensure optimized human-system interfaces. | 10% |
| <ul style="list-style-type: none"> Provide human systems expertise and support to the design and development of human -system interfaces in an integrated and collaborative fashion, supporting design, development, and preparation of deliverables. | 10% |
| <ul style="list-style-type: none"> Conduct cognitive task analysis at the system and component level. | 10% |
| <ul style="list-style-type: none"> Perform human error analysis by identifying potential sources of human error and actions to mitigate sources of human error through design recommendations. | 10% |
| <ul style="list-style-type: none"> Provide human factors consulting services to include design, prototyping, surveys/interviews, heuristic evaluation, cognitive walkthroughs, and/or usability testing of human-system interfaces. | 10% |
| <ul style="list-style-type: none"> Provide verification planning and execution for requirements such as usability, workload, error, information management, automation levels, anthropometry, range of motion, and strength. | 10% |
| <ul style="list-style-type: none"> Provide verification planning and execution for requirements such as usability, workload, error, information management, automation levels, anthropometry, range of motion, and strength. | 5% |
| <ul style="list-style-type: none"> Support technical reviews such as Preliminary Design Reviews (PDR) and Critical Design Review (CDR). | 5% |

PRE-EMPLOYMENT

| | |
|--------------------------|-----|
| MVR: | No |
| Criminal History: | Yes |
| Physical Exam: | No |
| Hearing Exam: | No |
| Pulmonary Function Test: | No |

PHYSICAL DEMANDS/WORKING CONDITIONS

Office and Administrative Support

Physical Demands

| Physical Demand | N/A | Rarely | Occasionally | Frequently | Constantly | Weight |
|----------------------------|-----|--------|--------------|------------|------------|--------|
| Standing | | | X | | | |
| Walking | | | X | | | |
| Sitting | | | | | X | |
| Lifting | | X | | | | |
| Carrying | | X | | | | |
| Pushing | | X | | | | |
| Pulling | | X | | | | |
| Climbing | | X | | | | |
| Balancing | | X | | | | |
| Stooping | | X | | | | |
| Kneeling | | X | | | | |
| Crouching | | X | | | | |
| Crawling | | X | | | | |
| Reaching | | X | | | | |
| Handling | | | X | | | |
| Grasping | | | X | | | |
| Feeling | | X | | | | |
| Talking | | | | | X | |
| Hearing | | | | | X | |
| Repetitive Motions | | | | X | | |
| Eye/Hand/Foot Coordination | | | | X | | |

Working Environment

| Working Condition | N/A | Rarely | Occasionally | Frequently | Constantly |
|------------------------|-----|--------|--------------|------------|------------|
| Extreme cold | | X | | | |
| Extreme heat | | X | | | |
| Humidity | | X | | | |
| Wet | | X | | | |
| Noise | | | X | | |
| Hazards | | X | | | |
| Temperature Change | | X | | | |
| Atmospheric Conditions | | X | | | |
| Vibration | | X | | | |

Travel Requirements

| Estimated Amount | Brief Description |
|------------------|-------------------|
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