BU Job Series Matrix

Job Family: Physical Environment	Job Series: Mechanical Inspection/Alignment Technician	Job Series Code: R49

Job Series Summary: This series of job classifications includes positions in which employees perform mechanical inspections of fabricated parts, components and assemblies produced by a variety of manufacturing processes. They utilize precision measurement tools and computer-aided equipment to measure, evaluate, and archive the dimensions of fabricated parts and assemblies in support of research and development programs. In addition, they perform measurement for precise alignment of machine components using standard alignment methods, specialized optical tooling techniques and specialized metrology equipment. There are three levels in the series. These levels are differentiated on the basis of the skill, precision, complexity, and independence with which the work is carried out, and the extent of leadership responsibility.

Job Title: Mechanical Inspection/Alignment Technician I	Job Title: Mechanical Inspection/Alignment Technician II	Job Title: Mechanical Inspection/Alignment Technician III
Job Classification Code: 6457	**Job Classification Code: 6458**	**Job Classification Code: 6459**
Pay Range: A34	**Pay Range: A40**	**Pay Range: A43**
Exemption Classification: Non-exempt	**Exemption Classification:** Non-exempt	**Exemption Classification:** Non-exempt
Effective/Revision Date: 11/01/2018	**Effective/Revision Date: 11/01/2018**	**Effective/Revision Date: 11/01/2018**
Job Responsibilities	**Job Responsibilities**	**Job Responsibilities**
• Working under direction of a supervisor or higher level Mechanical Inspection/Alignment Technician, perform mechanical inspections using defined general objectives. May be provided guidance as required. • Work is generally reviewed for results.	• Working with minimal supervision, perform mechanical inspections utilizing a full range of tools and exercises a high degree of skill, initiative, and judgment on complex jobs.	• Working independently with only general direction provided by their supervisor, perform mechanical inspections. • May also lead other Mechanical Inspection/Alignment Technicians • Employees at this level do not have supervisory authority over other employees and are not expected to exercise independent judgment on final decisions regarding quality or quantity of work produced by such employees, or personnel actions such as hiring, promotion, discharge or disciplinary measures.
Characteristic Duties The duties listed under this section are designed to provide a representative sampling of key tasks and/or responsibilities associated with the job. They are not intended to be a complete list of all the duties performed by employees in the classification.	**Characteristic Duties** The duties listed under this section are designed to provide a representative sampling of key tasks and/or responsibilities associated with the job. They are not intended to be a complete list of all the duties performed by employees in the classification.	**Characteristic Duties** The duties listed under this section are designed to provide a representative sampling of key tasks and/or responsibilities associated with the job. They are not intended to be a complete list of all the duties performed by employees in the classification.

• Perform visual and mechanical inspections of simple machined parts and assemblies using tools and gages. • Follow predefined Inspection plans and enters measurement data from hand tool measurements into tracking spreadsheet. • Drill, install wall & floor anchors and monument • Support measurements by holding, mounting and moving scales, rods, targets. • Set up instruments, charge instrument and data recorder batteries.	• Perform visual and mechanical inspections of machined parts and assemblies using hand tools, optical measuring devices, CMMs (Coordinate Measuring Machines), portable CMM, surface finish gage optical comparator and *OGP*. Follow GD&T standards • Balloon part drawings and create inspection plans on machined parts. Document measurements and archives completed measurement reports. • Fiducialize, measure and set components with optical tooling, laser tracker and portable CMM.	• Transmit instructions and specifications received from supervisor to workers; advise supervisor of work progress • Assign and explain tasks to workers; Inspect work for conformance with specifications • Train and motivate employees to meet quality and quantity standards • Ensure that safety rules are followed

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• Support calibration of instruments by moving equipment and setting up instruments at the test stands. Keep track of calibration due dates. • Housekeeping in storage areas and laboratories, liaison with building managers. • Adhere to safety rules.	• Perform Network measurements with digital levels, laser tracker and wire position measurement system. • Perform field calibration of instruments. Document results and upload data into database. • Train others on specific inspection practices, setups, and computerized measuring systems • May perform any of the duties described in the Mechanical Inspection/Alignment I specification or other duties as assigned. • Adhere to safety rules.	• Perform visual and mechanical inspections on complex and tightly tolerance machined parts and assemblies. This includes RF components and parts that will be in High Vacuum environments. • Develop CMM programs for part measurement using automated measuring devices. • Interface with engineers and scientists in order to understand measurement requirements and to explain measurement results • Design and perform local survey setups. • Interpret measurements (best fit of geometrical shapes) • Operate calibration stands. • Provide technical direction and training to others on advanced inspection practices, setups, and computerized data acquisition equipment • May perform any of the duties described in the Mechanical Inspection/Alignment II specification or other duties as assigned.
Minimum Education and Experience Required	**Minimum Education and Experience Required**	• **Minimum Education and Experience Required**
High school diploma or equivalent	High school diploma or equivalent	High school diploma or equivalent
Minimum Qualifications	**Minimum Qualifications**	**Minimum Qualifications**

• Demonstrated strong communication skills (both verbal and written). • Demonstrated ability to perform all Technician I level duties. • Working familiarity with GD&T (geometric, dimensioning and tolerancing) concepts and practice. • Demonstrated ability to use Height Gauge to make simple measurements. • Demonstrated ability to use manual inspection tools such as calipers, micrometers, pins and ring gages to measure and evaluate machined parts. • Operate hand tools. • Good fine motor skills to setup instrument	• Mechanical Inspection/Alignment Technician II has all of the qualifications described in the Mechanical Inspection/Alignment Technician I specification plus the following qualifications: • Demonstrated strong communication skills (both verbal and written). • Demonstrated ability to perform all Technician level I & II duties. • Basic knowledge in the use and application of GD&T. • Demonstrated ability to execute pre programmed CMM measurement routines. • Demonstrated ability to operate CMM, portable CMM, surface finish gage optical comparator and OGP. • Demonstrated ability to operate MS Office. • Solid mathematical skills, good eyesight for optical readouts. • Demonstrated ability to operate optical tooling, laser tracker, portable CMM, autocollimator, GPS rover.	• Mechanical Inspection/Alignment Technician III has all of the qualifications described in the Mechanical Inspection/Alignment Technician II specification plus the following qualifications: • Demonstrated strong communication skills (both verbal and written). • Demonstrated ability to learn and apply the University's commitment to a respectful workplace including, but not limited to, Affirmative Action, diversity and a workplace free of sexual harassment as it applies to their work group. • Demonstrated ability to perform all Technician level I, II & III duties. • Proficient at decoding GD&T callouts. • Highly skilled in operating and programming CMM measurement routines for all in house machines. • Demonstrated ability to operate calibration stands

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	• Basic understanding of coordinate systems. • Programming and computer skills including familiarity with CAD (Computer Aided Design) software systems, design, and dimensional measurement software are required. • Good verbal and written communication skills, the ability to read and understand mechanical design drawings	• Demonstrated ability to operate software to calculate best fit of geometrical shapes. • Can operate all available measurement systems. • Must also be proficient in 3D geometry, trigonometry, and relevant statistical skills, e.g. interpret residuals • Must possess the communication skills needed for instructing and leading others
Certificates and Licenses Required	**Certificates and Licenses Required**	**Certificates and Licenses Required**
Valid California Class C Non-commercial Driver's License.	Valid California Class C Non-commercial Driver's License.	Valid California Class C Non-commercial Driver's License.
Physical Requirements	**Physical Requirements**	**Physical Requirements**
• Ability to obtain and maintain a California Non-commercial Class C Driver's License.	• Ability to obtain and maintain a California Non-commercial Class C Driver's License.	• Ability to obtain and maintain a California Non-commercial Class C Driver's License.
Working Conditions	**Working Conditions**	**Working Conditions**

May be required to work overtime, evenings and weekends, including Holidays, sometimes in inclement weather conditions. May be required to wear appropriate protective clothing, i.e. steel toed boots, hard hat.	May be required to work overtime, evenings and weekends, including Holidays, sometimes in inclement weather conditions. May be required to wear appropriate protective clothing, i.e. steel toed boots, hard hat.	May be required to work overtime, evenings and weekends, including Holidays, sometimes in inclement weather conditions. May be required to wear appropriate protective clothing, i.e. steel toed boots, hard hat.
Work Standards	**Work Standards**	**Work Standards**
• Add if Applicable: When conducting university business, must comply with the California Vehicle Code and Stanford University driving requirements. • Interpersonal Skills: Demonstrates the ability to work well with Stanford colleagues and clients and with external organizations. • Promote Culture of Safety: Demonstrates commitment to personal responsibility 5and value for safety; communicates safety concerns; uses and promotes safe behaviors based on training and lessons learned. • Subject to and expected to comply with all applicable University policies and procedures, including but not limited to the personnel policies and other policies found in the University's Administrative Guide, http://adminguide.stanford.edu/ and the appropriate collective bargaining agreement at https://cardinalatwork.stanford.edu /hr processes-policies/labor-relations collective-bargaining	• Add if Applicable: When conducting university business, must comply with the California Vehicle Code and Stanford University driving requirements. • Interpersonal Skills: Demonstrates the ability to work well with Stanford colleagues and clients and with external organizations. • Promote Culture of Safety: Demonstrates commitment to personal responsibility and value for safety; communicates safety concerns; uses and promotes safe behaviors based on training and lessons learned. • Subject to and expected to comply with all applicable University policies and procedures, including but not limited to the personnel policies and other policies found in the University's Administrative Guide, http://adminguide.stanford.edu/ and the appropriate collective bargaining agreement at https://cardinalatwork.stanford.edu /hr processes-policies/labor-relations collective-bargaining	• Add if Applicable: When conducting university business, must comply with the California Vehicle Code and Stanford University driving requirements. • Interpersonal Skills: Demonstrates the ability to work well with Stanford colleagues and clients and with external organizations. • Promote Culture of Safety: Demonstrates commitment to personal responsibility and value for safety; communicates safety concerns; uses and promotes safe behaviors based on training and lessons learned. • Subject to and expected to comply with all applicable University policies and procedures, including but not limited to the personnel policies and other policies found in the University's Administrative Guide, http://adminguide.stanford.edu/ and the appropriate collective bargaining agreement at https://cardinalatwork.stanford.edu /hr processes-policies/labor-relations collective-bargaining .