

# Systems Engineering (1 of 2)

## Boeing Engineering Intern Program

	Primary Responsibilities	Preferred Majors	Available Sites*
<b>Systems Architecture, Integration &amp; Design</b>	<ul style="list-style-type: none"> <li>Identify, validate, and allocate an integrated set of product requirements that results in a balanced design.</li> <li>Perform analysis, to ensure the design as a whole is well understood ,under normal and non-normal operating conditions.</li> <li>Identify and manage risks</li> </ul>	Engineering Majors: Aero, Mechanical, Electrical, Software or Systems	Huntsville, AL; Mesa, AZ, Southern CA; Colorado Springs, CO; St. Louis, MO; Ridley Park, PA; Houston; TX; Arlington; VA; Seattle, WA area
<b>Customer Engineering</b>	<ul style="list-style-type: none"> <li>Support purchaser activities</li> <li>Analyze and improve processes</li> <li>Improve tool and data from various databases</li> </ul>	Engineering Majors: Civil, Mechanical, Chemical and Electrical	Seattle, WA area
<b>Certification</b>	<ul style="list-style-type: none"> <li>Define the regulatory certification requirements for a specific product</li> <li>Reviews for accuracy, facilitates necessary changes, tracks program to certification schedule and documents data correction</li> </ul>	Engineering Majors: Aerospace/Aeronautical, Chemical, Electrical, Math, Mechanical , Physics, or Systems Engineering	Huntsville, AL; Mesa, AZ, Southern CA; Colorado Springs, CO; St. Louis, MO; Ridley Park, PA; Houston; TX; Arlington; VA; Seattle, WA area
<b>Regulatory Administration</b>	<ul style="list-style-type: none"> <li>Coordinate the development of regulatory certification requirements, means of compliance, address certification risk items, and facilitate the resolution of technical issues.</li> </ul>	Engineering Majors: Aero, Mechanical, Electrical, Software or Systems	Southern CA; Seattle, WA area
<b>System Safety</b>	<ul style="list-style-type: none"> <li>Analyze accident, incident, event, and systems performance data to determine safety risk levels</li> <li>Identify and analyze potential safety hazards in design, operational procedures, maintenance practices and manufacturing processes.</li> <li>Coordinate analyses for Safety Review Board and Engineering Investigation Board reviews, and corrective actions through the functional design organizations and various government agencies.</li> </ul>	Engineering Majors: Aerospace/Aeronautical, Mechanical or Systems	Seattle, WA area
<b>Reliability, Maintainability, System Health, Survivability, Vulnerability, Susceptibility, Testability</b>	<ul style="list-style-type: none"> <li>Perform failure modes and effects analysis, fault tree analysis, 3-D human modeling for maintenance access, reliability and maintainability predictions, and component analysis to assess design characteristics.</li> <li>Gather and provide data to report validation and verification compliance activities, through analysis, inspection, demonstration or test, to assess adherence to specifications or regulatory requirements</li> <li>Basic knowledge of root cause analysis and corrective action , failure mode effect and criticality mission analysis for development and in service products.</li> </ul>	Engineering Majors: Aerospace/Aeronautical, Chemical, Electrical, Math, Mechanical , Physics, or Systems	Huntsville, AL; Mesa, AZ, Southern CA; Colorado Springs, CO; St. Louis, MO; Oklahoma City, OK; Ridley Park, PA; Houston; TX; Arlington; VA; Seattle, WA area

# Systems Engineering (2 of 2)

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	Primary Responsibilities	Preferred Majors	Available Sites*
<b>Product Lifecycle Management</b>	<ul style="list-style-type: none"> <li>Perform analysis of engineering design, manufacturing &amp; product support requirements to develop and implement new process and tool technologies.</li> <li>Utilize an understanding of product design and build processes and applies standard methods to construct program planning models simulating the multi-functional dependencies of the product development lifecycle.</li> </ul>	Engineering Majors: Mechanical, Aero, Electrical, Systems	Huntsville, AL; Mesa, AZ; Southern CA; St. Louis, MO
<b>Human System Integration</b>	<ul style="list-style-type: none"> <li>Develop and maintain effective and efficient flight crew interface.</li> <li>Apply basic knowledge of human capabilities and constraints along with knowledge of the user and their environments to assist in the development, test and evaluation of safe and effective user interfaces</li> </ul>	Engineering Majors: Mechanical , Electrical, Aerospace Engineering (MS Human Factors) Chemical, Electrical, Math, Physics, or Systems	Huntsville, AL; Mesa, AZ; Southern CA; Colorado Springs, CO; St. Louis, MO; Oklahoma City, OK; Ridley Park, PA; Houston; TX; Arlington; VA; Seattle, WA area
<b>Modeling, Simulation &amp; Operational Analysis</b>	<ul style="list-style-type: none"> <li>Applied knowledge of mathematical modeling and advanced mathematics</li> <li>Perform multi-disciplinary trade studies</li> <li>Perform operational effectiveness analysis methodologies (Mission &amp; System)</li> <li>Ability to resolve Customer / Industry / Government requirements / interfaces / operational effectiveness and perform Lifecycle Cost Analysis</li> </ul>	Engineering Majors: Electrical , Software or Systems	Huntsville, AL; Mesa, AZ; Southern CA; Colorado Springs, CO; St. Louis, MO; Oklahoma City, OK; Ridley Park, PA; Houston; TX; Arlington; VA; Seattle, WA area
<b>Communications &amp; System Security</b>	<ul style="list-style-type: none"> <li>Perform network communication concepts, principles, architectures</li> <li>Apply end-to-end knowledge of network transport technologies, systems, environments, services, protocols, performance monitoring and diagnostic analysis</li> <li>Apply knowledge of verification, validation, certification, qualification processes and procedures</li> <li>Work with system security domains (information assurance, anti-tamper, intrusion detection, software protection, software assurance, communications security, encryption, key management, countermeasures)</li> </ul>	Engineering Majors: Communication Systems, Electrical, Software or Systems	Huntsville, AL; Mesa, AZ, Southern CA; Colorado Springs, CO; St. Louis, MO; Oklahoma City, OK; Ridley Park, PA; Houston; TX; Arlington; VA; Seattle, WA area
<b>Mechanical Systems Design &amp; Analysis</b>	<ul style="list-style-type: none"> <li>Aircraft Environmental Controls Systems (ECS) Definition - Architecture, Performance, Analysis, Certification, and Validation</li> <li>ECS Design, spatial integration, fabrication plans, and manufacturing coordination</li> <li>Supplier coordination and management – requirements definition, technical oversight, &amp; project management</li> </ul>	Engineering Majors: Mechanical, Aerospace, Aviation, Environmental; Emphasis in Fluid Mechanics, Thermodynamics, or Heat Transfer	Seattle, WA area
<b>Mechanical Hydraulics</b>	<ul style="list-style-type: none"> <li>Develops and functionally integrates mechanical, electronic, hydraulic, and thermal requirements to create the architectures and designs for the following aircraft systems: brake control/antiskid/autobrake, landing gear actuation, steering, cargo door actuation, and hydraulic power generation.</li> <li>Researches and investigates emerging technologies to ensure that our future system designs bring value to the aircraft and lead competition in marketplace.</li> </ul>	Engineering Majors: Mechanical or Electrical, Computer Science, Physics	Seattle, WA area