



Structural Engineer (Senior/Principal) Plymouth, MN

***U.S. citizenship or U.S. permanent resident status required**

About Uni-Systems Engineering

Uni-Systems Engineering is a premier provider of custom mechanization for iconic structures and attractions that create unforgettable experiences. We partner with engineers, architects, and construction managers to mitigate risk and deliver functionally integrated, reliable structures. Our team of mechanical, structural, and electrical engineers deliver custom, project-specific solutions to complex and unprecedented engineering challenges. With expertise spanning industries such as Aerospace, Amusement and Entertainment, Stadiums and Ballparks, Telescope Observatories, and Custom Cranes, we bring engineering excellence to every project. Visit our website (www.uni-engineer.com) to learn more.

Job Summary

Uni-Systems Engineering is looking for a motivated individual that is interested in working in an atypical Structural Engineering position using engineering principles and applying them to custom operable systems. This individual will have the opportunity to design world-renowned structures that are highly visible to the public while frequently working from concept level all the way through installation. Engineering level and responsibilities will be determined based on experience and qualifications.

The person in this role needs to be comfortable owning their designs, be willing to take risks, utilize engineering principles, building codes & client codes, and implementing prototype testing when necessary to create functional, safe, and economic designs. They will provide effective engineering leadership, input, and structural design support on a project basis. They will contribute to multiple aspects of projects including design, documentation, purchasing, fabrication, installation, and commissioning of mechanized structural systems.

This individual will provide work direction, technical expertise, and effective communication to the project team while simultaneously evaluating and vetting ideas from other disciplines and high competency teammates. They will utilize strong analytical skills to solve complex technical challenges and outcome-oriented self-direction to achieve ambitious project goals. There are no step-by-step codes or guidelines to follow in many cases and reliance on engineering judgment will be required.

Responsibilities

- Discipline-specific responsibilities include:
 - Conceptual structural design
 - Estimating weights, members, and details for proposal preparation
 - Detailed design development utilizing structural methods, software, building codes, and client specifications
 - Structural calculation and drawing production
 - Shop and field structural inspections
 - Stay current with codes and requirements that apply to specific engineering disciplines
- As Project Engineer:
 - Communicate with clients
 - Develop design budget and schedule
 - Monitor budget and schedule during the design phase
 - Coordinate design team to complete the design and achieve project objectives
- Actively participate in scheduled design reviews with contractor, architect, engineering consultants, and other project team members
- Interface with other departments to coordinate structural systems with electrical and mechanical systems
- Provide project status updates for Project Review Meetings and other company meetings
- Interface with field personnel and purchasing to determine and obtain required materials
- Assist in prototype development, implementation, and documentation
- Assist in operation & maintenance manual production
- Visit manufacturing/vendor sites to inspect and communicate expectations
- Support Uni-Systems Engineering Sales & Marketing Efforts:
 - Provide technical and media support, including written and visual materials
 - Occasionally, write articles for magazines and technical journals to expand company presence
- Monitor project design costs and progress to ensure that approved project budget and schedule goals are achieved. Facilitate client communication
- Drive continuous improvement by finding ways to enhance quality and performance with shop and field assembly, adjustment, function, aesthetics, costs, and maintenance

Job Requirements

Minimum Qualifications

- U.S. Citizen or a U.S. Permanent Resident (Green Card holder)
- B.S. degree in Civil/Structural Engineering from an ABET-accredited institution with 5+ years of relevant experience, or M.S. degree in Civil/Structural Engineering from institution with an ABET-accredited undergraduate program with 3+ years of relevant experience
- E.I.T. certified
- 3D Modeling and FEA software experience
- Knowledge of current codes and requirements that apply to the Civil/Structural Engineering discipline
- Understanding of engineering software, most advantageous being SAP2000, StaadPro, Risa3D, SolidWorks, SolidWorks Simulation, ANSYS, and MATHCAD

- Ability to push the boundaries of the code, understand and apply alternate codes, and think outside of the box
- Desire to understand the behavior behind and solve complex structural design problems including large machine design, structural dynamics/statics, system stiffness, load distribution, failure modes, and related system integration tasks
- Ability to make tough engineering decisions and confidently defend them
- Proficient at using analysis and design software that is relevant to the business
- Independently develops approach to solutions and works under general direction
- Self-directed, results-oriented with proven ability to organize, plan, and prioritize work to meet deadlines
- Communicates effectively with management, employees, vendors, and customers
- Strong attention to detail in completing work
- Applies sound judgment and critical thinking skills to complex projects and business challenges
- Ability to work successfully within a team, cross-functionally, and independently
- Travel (domestic and foreign) during design, installation, and commissioning of projects, up to 5% of the time

Preferred Qualifications

- M.S. degree in Civil/Structural Engineering
- P.E. and/or S.E. registration
- Experience using SAP2000, StaadPro, Risa3D, SolidWorks, SolidWorks Simulation, ANSYS, and/or MATHCAD
- Experience in managing risks associated with custom designs
- Previous experience collaborating with clients' input to innovate and creatively solve multifaceted problems
- Knowledge of fabrication techniques and machine shop experience
- Exposure to mechanical equipment/systems and/or a general aptitude for being hands-on

Benefits of Employment

- Competitive salary and growth opportunities
- Comprehensive benefits package including medical, dental, vision, life, and disability insurance
- 401(k) plan with above-market company matching
- Generous Paid Time Off (PTO) and Paid Company Holidays
- HSA and FSA options
- A collaborative culture built on integrity, respect, innovation, value, and enterprise

If you are passionate about solving complex engineering challenges and shaping innovative solutions, we encourage you to apply for this exciting opportunity at Uni-Systems Engineering!

Contact

Jane Otto

HR Manager

jotto@uni-engineer.com