

SUBCRITICAL SYSTEMS · JOB OPPORTUNITY

Mechanical Design Engineer- Multiphysics Simulation



Department	Engineer	Posted	May 28, 2026
Location	Austin, TX On-site	Employment	Full-Time

ABOUT SUBCRITICAL SYSTEMS

Subcritical Systems, Inc. is a venture-backed startup in Austin, Texas building the accelerator driven systems and the only US commercial manufacturer of accelerator cavities. What Space X did for rockets, we plan to do for accelerator cavities and commercialize across applications of power production, medical isotopes, semiconductors and waste transmutation.

We are in the process of building the Energy Amplifier, a novel nuclear fission system in which a particle accelerator drives a subcritical core, making meltdown physically impossible for clean power production. Due to its inherent safety, our system has a more streamlined licensing process. Our founding team includes successful entrepreneurs with a track record of building several multibillion dollar companies in deep-tech, and scientists who were leading U.S. national labs with deep experience in accelerator & nuclear technologies.

We are actively hiring to expand our team as we work toward licensing, regulatory submissions, and construction of our first energy amplifier. More information is available at subcritical.com.

ROLE SUMMARY

We're looking for a Mechanical Engineer to support the design, analysis, and delivery of complex engineered systems. You'll apply core mechanical engineering principles across the full project lifecycle, from simulation and design through procurement, fabrication, and commissioning working cross functionally with other teams.

KEY RESPONSIBILITIES

Engineering Analysis & Simulation

- Perform engineering analyses including heat transfer, fluid flow, vibration, and stress analysis.
- Utilize CAE tools such as finite element analysis software (ANSYS) as needed. Maintain proficiency in use of the software so that tasks can be completed in a timely fashion.

Cross-Functional Collaboration

- Work with engineers and scientists in defining requirements, designing, analyzing, fabricating, installing, and testing/commissioning components and systems.
- Present technical status reports and designs at engineering and safety reviews; produce system documentation as needed.

Design & Standard Compliance

- Design systems in accordance with applicable codes and standards, including ASME piping, ASME Boiler and Pressure Vessel Codes, and JLab Pressure and Vacuum System Rules.
- Work with design staff to generate components and assemblies in a 3D CAD tool using Siemens NX.

Procurement & Fabrication Support

- Initiate and support procurement and fabrication of small and large-scale complex components and assemblies. Act as Technical Representative for major procurements:
 - a. Generate pre-solicitation technical and funding documents.
 - b. Review and approve submittals and contractor changes.
 - c. Define inspection requirements; perform/witness inspections and tests.
 - d. Provide approval of final products and/or services.

Safety

- Perform all job functions in a safe and responsible manner and encourage the same in fellow employees.
- Take a proactive view of safety.

QUALIFICATIONS

Required

- Bachelor's Degree in Mechanical Engineering or equivalent.
- 3+ years of relevant experience
- Strong working knowledge of the underlying engineering: heat transfer, solid mechanics, fluid mechanics, and structural dynamics — not just the software that solves them.
- Sound judgment on mesh, element selection, boundary conditions, and convergence; able to defend modeling choices in a design review.
- Ability to read and interpret mechanical, P&ID, weld, and fabrication drawings, and to produce clean engineering documentation independently.
- Bias for action and ability to coordinate effectively across engineers, scientists, trades, vendors, and executives.

BENEFITS

We offer health, dental, and vision insurance.

LOCATION & WORK POLICY

This role is fully in person in Austin, Texas. Our facility is located next to Austin Airport.

HOW TO APPLY

Apply on LinkedIn or submit your resume and a brief cover letter to careers@subcritical.com with the subject line "Mechanical Design Engineer: Multiphysics Simulation - Application". Applications are reviewed on a rolling basis.