



September 2013

Position Description: Sr. Staff Mechanical Engineer
Targeted Salary Range: BSME \$62k to \$78k | MSME or Ph.D. \$72k to \$90k

We are looking for a talented mechanical engineer with exceptional communication skills with a background in FEA.

Predictive Engineering: As a mechanical engineering consultancy, our clients turn to us to solve their most difficult analysis challenges. We are the go-to experts for quickly solving difficult problems in a collaborative manner. We have a nationwide reputation for providing accurate analyses across broad industrial sectors from medical, aerospace, marine, automotive, chemical, mining and general consumer products.

Required Qualifications:

- BSME (minimum)
- +2 year experience as engineering analyst or equivalent experience in mechanics (acceptable for those with a Ph.D. in mechanical engineering)
- Demonstrative communication skills with writing, report preparation and presentation
- U.S. Citizenship

Ideal Candidate: MSME or Ph.D. with three years of experience or a BSME with five years of consulting analysis experience. Comfortable writing high-quality engineering prose for proposals and reports. Since much of our work is presented at the senior engineer and VP level, one should be able to effectively communicate analysis results while being intelligently critiqued. Since our work is constantly changing, you should be comfortable with independently researching solutions and developing analysis checks to verify your assumptions. The outcome of your work often has a huge financial impact and the margin for error rarely exists.

Here is a list of traits that would ensure success in this position:

- MSME or Ph.D. or BSME with three to five years' experience in FEA
- Inquisitive and engaging communicative style that facilitates client interactions
- Dedicated to getting the right answer beyond any logical argument
- Ability to quickly learn new analysis techniques from linear dynamics (PSD) to fluid structure interaction (SPH/DEM/ALE)
- Interested in learning and being challenged by a non-stop diversity of analysis projects
- Wants to be part of a team that is setting the bar for high-end analysis solutions

Sr. Staff Position Description:

- Ability to manage small projects (<\$50k) in an entrepreneurial manner. This implies: (i) in-depth examination of the project's goals and deliverables with full client involvement, (ii) execution of the analysis work with attention to detail and modeling efficiency, (iii) exceeding the client's expectations for delivery and quality, (iv) maintaining a follow-on relationship to ensure that the project work was correctly implemented and had a successful outcome, and (v) you take intense pride in your work.
- Work is free of Class I errors, Class II errors rarely exist or no more than once every three months and Class III errors decrease over time and are not repeated. A Class I error is defined as entering a wrong load (10 N when it should be 100 N), wrong units (length or mass), incorrect plate property thickness by an order-of-magnitude or a wrong constraint application. It signifies that the analyst did not think clearly about their work or did not appropriately check their work. Class I errors have the possibility of putting the company out-of-business since they provide no legal cover. Class II errors represent the use of an incorrect assumption or the use of incorrect secondary input data (e.g., plate thickness should be 0.75 but the analyst entered 0.625) or running the model as linear when nonlinear should have been used. Class III errors represent errors of casual omission such as calendar dates on engineering reports or the use of aluminum when steel should have been used in a stress analysis model. Class III errors have no



effect on the analysis results but represent a quality issue to the client. In summary: Class I errors are serious; Class II errors can cause significant error but are recoverable; and Class III is just poor workmanship.

- On-site engineering work (outside of Portland) is expected to be no more than five weeks a year.
- A keen sense of artistic balance in report and document preparation. All great engineers are artists but not all great artists are engineers.

Salary: Competitive salary with reviews every twelve months. Outstanding work will be compensated commensurately.

How to Apply: Send us a brief cover letter with an example of your engineering prose and your current resume. We would also appreciate seeing an example of your engineering project work in graphical format. Please be kind to us and keep your submittal as brief as possible. One can send their submittal electronically via our website email link under About Us/Careers: <http://www.predictiveengineering.com/Solutions/about/careers.html>

Our commitment to those that apply for this position: We understand it takes time to prepare for position announcement and we appreciate your interest. When one applies for this position, this is our commitment to you:

- We will let you know that we received your submittal and whether or not we are interested in you as a candidate
- If selected for an interview, we will do a web meeting with web cams
- Subsequent to web meeting interview and if you are successful, we would like to do another web meeting to evaluate your technical abilities involving items such as: mental math, writing ability giving a simple outline, problem solving skills and ability to withstand a bit of skeptical criticism
- At this stage, if all signals are green, we will invite you in for a formal interview and possible job offer

Predictive Engineering, Inc. is an equal opportunity employee and we encourage all races and creeds to apply for this position. We would welcome members from outside the standard U.S. ethnic groups. Languages spoken at Predictive are English, Spanish and French and would welcome additional languages. We promote bike commuting and advocate healthy lifestyles. Predictive offers a 401k pension plan with a matching contribution along with full health care benefits.