

STATEMENT OF PURPOSE

My name is Masuk Alam and I come from a middle-class family in Kalaiya, Nepal. I completed my Bachelor's Degree in Mechanical Engineering from Dr. A.P.J. Abdul Kalam Technical University (Formerly UPTU), Lucknow in 2016, and currently I am working as a Sr. Mechanical Engineer (Production and Maintenance) at Hama Iron and Steel Ind. Pvt. Ltd., Simara. Having spent much time in steel sector in the past four years, I believe that it is the right time to pursue higher studies not just to enhance my own knowledge, but to widen my perception and vision in technical field by exploring and acquainting myself with all the technological possibilities among other things in progress in the sector of Production in the world elsewhere. Attaining a Master's degree in the "Manufacturing Science and Engineering" program will broaden my skillset, and also help me grow as a competent professional to contribute to the Production sector in my country which has been urgent, and to the Manufacturing practices which have been rueful.

For the last Four years in Hama Iron and Steel, I have been involved in Production and maintenance of rebar from 8-32mm along with a hawk eye in the quality control of the products. I have been undertaking various kinds of works like making the necessary changes in the pass schedule of the rebar, planning the production schedule and getting it implemented, finding the flaws in the production process and generating ideas for the improvisations, managing the scheduled and daily maintenance of the mill, regular inspection and monitoring the physical and chemical (Spectrometric Test) tests of the lab for the quality control. Currently I have been working in the Low Temperature Rolling for fine Grain Structure to enhance the physical properties of the Rebar. Rolling Mills in Nepal still run in the traditional ways and I would like to take this opportunity of studying at IITK to develop myself as a leader in uprooting the out dated practices and plant the best manufacturing practices. I have elaborated more on my purpose further below.

Firstly, the reason that I am applying to this program is because of how well the modules suit my needs, and the courses offered align with my approach of working in professional environment. The industry needs innovative and efficient techniques for informed decision making, especially because the design processes are iterative and repetitive. Exemplifying one of my work experiences, I had been working on the design of ribs on the rebar on which I found that the branding alphabets or numbers on the rebar considerably decrease the projection area of ribs in per unit length at the branding portion and rebar will not be able to form a proper bond with the concrete. So I then suggested to emboss the alphabets in between the ribs and calculate the mean projection area in AutoCAD which showed the quite improved value as compared to previous one. This is how a simple but effective idea improved the quality of the product. Another example is the issue of roll cooling which had decreased the pass life of the rolls. There had always been the problem of roll cooling arrangement which I sorted out by designing a U-Shape tube by making mounting arrangement on the Rolling Stand itself. This gave a very good result in roll cooling and enhanced life of rolls. So I believe the correct and effective ways may not be easy but the results can be obtained with a lot of saving of resources and money. We just need to find a proper idea. This is also the reason that I am applying to this program, and I appreciate its practical, need-based, and professional approach.

Secondly, the program will enhance my competencies for solving real world problems. Nepal is a developing country and industries and factories are the most important sectors for getting a country developed. Even being in between two fastest growing nations, India and China, Nepal has shown a very slow pace in development of the production sector. Though the manpower cost is low in Nepal compared to India and China, no any foreign company is interested to invest in Nepal. This is because we lack International Practices and have got no any idea of modern technologies. If we can get our people understand the new modern processes and lace ourselves with the international practices, I believe we can

be a center of attraction for both the countries in the field of Production. We have got so much of natural resources like wood, herbs, edible products and so on, which can be the raw materials for many of the companies. We can create assembly lines of the vehicles as the manpower cost is quite low and other resources like water and electricity are easily available. Furthermore, studying in multiple international universities will also expose me to a diverse culture and work environment which will help with technology transfer and will open doors to possible collaborative projects in the future. All of this is closely related to national and social welfare, and I want to do my part of the contribution.

I have always been a bright student, and my problem-solving mindset helps while working with software as it is also my strong suit. I am familiar with AutoCAD and Solid Works. Due to this reason, the M.Tech program will be suitable for my development as a Production Professional who can involve and promote good manufacturing processes in this field in Nepal as well. I am a versatile individual with skills in other fields like sports and music too, and this nature of mine has so far enabled me to do whatever I take on better than most people; it is something that I hope will give you additional reason and justification as to why I should be given the chance to enroll in this program. I am applying for scholarship due to being financially challenged, and therefore, I appeal to the Selection Committee to consider my application to the M.Tech program with financial aid.

Sincerely,
Masuk Alam,
Kalaiya, Nepal.