



Statement of Purpose (Civil Engineering)

In this essay I outline my academic and extra-curricular accomplishments. Also discussed are my career objectives and the motivation to pursue the graduate program in Civil Engineering at the University of Massachusetts, Amherst.

The undergraduate curriculum in Chemical Engineering at IIT, Kharagpur, introduced me to a wide gamut of subjects, both in and outside the field. Various courses like Mass Transfer, Heat Transfer, Fluid Mechanics and Transport Phenomena have provided me with a strong footing in the theoretical concepts of Chemical Engineering.

It was the field of Environmental Technology which particularly captured my interest. The desire to delve deeper into this subject persuaded me to take elective courses in Industrial (Air) Pollution Control, Non-conventional Energy Engineering and Environmental Earth Sciences. While offering both depth and breadth across this field, these courses put into perspective the importance and relevance of Chemical Engineering and the application of its fundamentals to environment related problems. I came to realize that although traditionally Environmental Studies has been under the domain of Civil Engineering, the increasing complexity and magnitude of Environmental problems have resulted in a growing need for the services of disciplines other than Civil Engineering.

During the eight week Summer Training at the Development Consultants Ltd., I was assigned to the Cement Cell, where I received a detailed knowledge of the cement manufacturing processes. As an Industrial Intern, I was assigned a project on Cement Plant Design (1800 TPD), which encompassed Raw-Mix Design and Capacity Calculations for various equipment. Here, I got acquainted with the Pollution and Energy Conservation problems faced by the Cement Industry and devoted a significant portion of my project to the pollution abatement methods.

My final year dissertation was on the Manufacture of Phosphoric acid from rock phosphate using Sulfuric acid (Design of 100 tpd Plant). This covered the design of Reactor, Extractor (for acid purification) and Evaporator (for acid concentration). As a natural outcome of my interest in Pollution control, adequate emphasis was provided to waste gases and waste water treatment which involved off-gas scrubbing (venturi design) and discharge method details, gypsum disposal methods, disposal of fluosilicic acid as waste material and the incorporation of all these in the Plant Layout/flow-sheet.

At IIT, Kharagpur, I have received the best possible undergraduate education in Chemical Engineering in India. Throughout, my scholastic records and achievements have been outstanding. I have consistently ranked in the top 2% of the students of my class, in school, and consider the high point of my achievements as being ranked in the top 1% of more than one lakh students who wrote the Joint Entrance Examination for admission to one of the six Indian Institutes of Technology.



Throughout my school and undergraduate education, I have been a keen participant in extra-curricular activities. Getting elected as the School Pupil Leader (Head Girl) helped me hone my organizational and interpersonal skills. At IIT, I have been involved in the Annual cultural Fest as Head of the Control Tent Team. I have also taken active part in dramatics and made my contribution to the Technology Dramatics Society (English chapter) at IIT, as its member and later as the Governor. I was also the member of the NSS at IIT where I had the opportunity to be involved in it's Literacy and Health & Nutrition Programs. I continue to be a member of the Helpage Society of India, which provides palliative care to the terminally ill cancer patients.

The years of undergraduate education have been an enriching experience - both academically and otherwise, and I am determined to maintain the high levels of excellence throughout my career.

My immediate degree objective is an M.S in environmental engineering – a rapidly evolving field with an immense potential for research. I wish to follow it up with a Ph.D, to pursue a career in research and experience the excitement and satisfaction of being at the forefront of this vast expanding field.

An extremely distinguished faculty, a milieu replete with academic activity, and a graduate program which blends high quality course work and research facilities at the cutting edge of every sub-field are the factors which have motivated me to choose the University of Massachusetts, Amherst for graduate studies. I believe the program offered will help me acquire the versatility needed to reach my full potential as an engineer.

It would, therefore, be a privilege to be able to secure admission to pursue graduate studies, with adequate financial assistance at the University of Massachusetts, Amherst. I am confident that I will match the high standards set by your university.