

Author

Institution Name

Course Name/Number

Instructors Name

Due date



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# Applied and Computational Math Sciences

Mathematics is a familiar language of recent science, business, and engineering. ACMS is a program that comprises a number of disciplines i.e. computer science and engineering, scientific computation, mathematical explanation, and numerical study. An ACMS major is an outstanding stepping-stone to a profession in management science, engineering and the physical sciences. Essentially, I would like to enroll for this program because it consists of an exceptional combination of three disciplines, which include mathematics, statistics and computer science. This will help me intensively understand the three independent disciplines, their aptitude to create problems mathematically, and relevant problem solving skills. In addition to that, I will get an opportunity to focus on any of the three disciplines, which will include concepts from the other disciplines as well.

I am very passionate as regards to both math and Computer Science



(CS); as a result, my goal is to double major in both. Mathematics has constantly been vital to countless forms of scientific analysis. It is widely used in approximately every aspect of life from computing bills at a cashier's desk to solving complex mathematical equations for modeling digital signal processing. Computer programming on the other hand helps in finding more solutions for these problems. It has become a necessity to find efficient, well-organized and competent solutions with the most effective approach to the ever-growing problems currently. I want to be a part of the process of finding these solutions because of my interests in math and programming.

My other reason for wanting to major in ACMS is; there are a number of choices for advancement in a career or explore a new field. These fields are computer security specialist, data analysis, management consultant, financial analyst, management consultant, system analysis or teacher. This course will also provide a strong and vigorous research program in a number of areas i.e. applied analysis and asymptotic analysis. Other areas are; fluid dynamics, multiphase flows, and fluid flow in porous media, network theory, graph theory, discrete algorithms, mathematical biology, cellular dynamics, applied harmonic analysis, approximation theory, and applications of wavelets, and computational algorithm development and analysis that will give me the diversity I desire.

I also tutor at the math study center as a hobby. This has not only made my math foundations strong but has also helped me to be patient and receptive to other issues in mathematics. Broad experience in solving many math problems has given me the confidence that there always is



a solution to any given problem. This has helped me change my approach toward solving problems. It has built my skills to analyze and solve any engineering tribulations. Before tutoring, I assisted in building a robotic hand using MATLAB during the summer of my senior year of high school. I then realized that I wanted to major in something that involves programming and problem solving.

What I love about programming is that it leaves me enthralled when my code displays the correct results. After taking some introductory CSE classes and getting to know about the CS field, my interest increased to additional heights. I am excited to learn more about the Computational Complexity Theory in CS since it beautifully ties both Math and programming together.

An aspect of programming and problem solving in math is patience because it takes a lot of trials and errors for one to get various aspects right. Collaborating with teammates also plays a vital role since it is not an individual effort. Lastly, hard work and determination are inevitable in finding effective solutions and making any code run. In terms of computer languages, I have learned java, python, and C++. I enjoy using these languages for creating codes that compute restaurant bills or tips on an iPhone. With this understanding, I feel prepared to major in the discrete math and algorithm discipline in ACMS.

