Re: advise on math course

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> *Linear and Nonlinear Equations, Linear Least Squares, Eigenvalue*
> *Problems, Optimization, Interpolation, Initial and Boundary Value*
> *Problems for ODEs,Fast Fourier Transform*

NOT recommended! This perhaps would be tiresome, unless you have a specific problem in mind, or any special reason you want to learn the techniques. On the other hand it can come quite useful depending on your future job, mainly if you are going to work with engineers.

> *And the other one is Stochastic Models*
> *reliability, probability, queuing theory, inventory systems, Markov*
> *chain models, Markov decision processes, discrete−event simulation*

Again, it can come quite useful, with wide range of application. This one is perhaps more interesting.

> *If one has taken such similar courses please let me know how these*
> *courses helped and what typical research is being done in these* areas.

I haven't had any work experience on these, but I can reckon how it can be. The first one comes handy when you have your problem (almost) formulated. Say, an engineer comes to you and ask you to write a program to solve his optimization problem. You should find a reliable method to give good answers in practice.

On the other hand, the second one also involves some modeling. You will have to interact with engineers/computer scientists/biologists/economists/... to first create a suitable model, then analyze it either by mathematical tools or by simulation. Say, you will have to create a model of the network, and find the specification of the server.

Siamak