CU Boulder, MS Applied Mathematics, 12/15/2016

My curriculum would include 30 credit hours, 3/5 of which are applied mathematics courses, and a thesis. My first semester would open with the 500 level courses *Modeling in Applied Mathematics* and *Numerical Analysis I* and the 400 level course *Fourier Series and Boundary Value Problems.*

I will need to understand the basic concepts of linear algebra, have knowledge of a programming language and be familiar with multivariable calculus, vector analysis, and theorems of Gauss, Green, and Stokes.

The faculty at CU Boulder enjoy **dynamic systems** and nonlinear phenomenon. Assistant Prof. Iam Grooms finds mathematical techniques to support atmosphere and **ocean science**. As I am interested to study the effects of climate change, I would be thrilled to work with Dr. Grooms.

University of Utah, MA Mathematics, 01/01/2017

For this degree, I would complete 30 hours of coursework, write a thesis and demonstrate standard proficiency in the German language. My first semester would begin with the 500 level courses *Intro to Real Analysis* and *Intro to Numerical Analysis.*

The prerequisites are similar to those above: familiarity with advanced calculus, linear algebra and scientific computation.

Utah hosts workgroups in **material science** and structural optimization. Associate Prof. Yekaterina Epshteyn researches coarse microstructures. Under her guidance, I could examine **soils** and **sediments**. Prof. Elena Cherkaev studies diffusivity in fluid flows. Maybe we could optimize irrigation techniques.

Washington State University, MS Mathematics, 01/10/2017

This professional degree program requires three group projects and culminates in qualifying examinations. The curriculum emphasizes numerical analysis, optimization, simulation, and statistics.

Assistant Prof. Tom Asaki uses **derivative-free optimization** for image processing. His manuscripts combine topological arguments, algorithmic searches and random variables. I'm intrigued! Assistant Prof. Hong Dong applies quadratic programming to **sustainable agriculture**. His work sounds really cool. I can imagine myself finding a career in the production of sustainable food.

Oregon State University, MA Mathematics, 01/15/2017

Similar to U Utah. At OSU, Prof. Enrique A. Thomas develops mathematical models for problems arising in **ecology**, oceanography, hydrology and natural resource management. I imagine myself finding a mathematically meaningful career where I could spend time outdoors.

Colorado State University, MS Mathematics, 02/01/2017

Similar to CU Boulder. At this CSU, Associate Prof. Iuliana Opera specializes in computational **fluid dynamics** and hydromagnetism. Maybe we could develop alternative energy sources. Dr. Oliver Pinaud studies **wave propagation** in random media. His research seems useful for designing scientific equipment.

University of New Mexico, MS Mathematics, 02/15/2017

Similar to U Utah, but with an emphasis on applications in **theoretical physics**. They have an excellent high-performance computer lab for student research.