**Management Science: Optimization and Problem Solving for Public Sector Problems**

Problem-solving is one of the most sought-after skills in today’s workplace. This course will help students build analysis skills to become better decision-makers and managers.

Our main focus is mathematical programming: building models to help us optimize decision-making for messy problems found in the public and non-profit sectors.

We will formulate and solve problems by hand and with Excel. We’ll also practice presenting our results in accessible and practical ways.

**LEARNING OUTCOMES**

By the end of the semester, students will have a firm understanding of the…

* Structure underlying a wide variety of mathematical models, including the assumptions and limitations of each model
* Importance of judgment in building, analyzing, and interpreting the results of mathematical models
* “Ins and outs” of Excel

By the end of the semester, students should be able to…

* Interpret the results of mathematical models used in public policy research done by others
* Use appropriate mathematical models in their own work
* Present the results of mathematical models effectively

Together, these learning outcomes will build your critical thinking and problem-solving muscles. For students who never wish to be hands-on building models in their career, this class will grow your decision-making confidence in policy settings – especially *how to ask the right questions*.

The instructor for this course is a practitioner who has used data to drive policy insights in the public and private sectors. This course was her favorite class at the LBJ School and she credits it for making her a better analytical thinker. If you don’t consider yourself a “quant person,” but still want to build some data and excel skills - this may be a great course for you. But it is a math class, nonetheless.