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Morteza Shafii-Mousavi* (mshafii@iusb.edu), Mathematical Sciences, PO Box 7111, South Bend, IN 46634-7111. *Mathematical Methods of Operations Research*.

The paper describes operations research modeling approach used in Mathematical Modeling courses offered for diverse majors. Courses encourage appreciation of math as students see an immediate use for it in solving real world problems. The coverage includes modeling techniques, linear and nonlinear optimization, sensitivity analysis, convexity analysis, networks, dynamic programming, stochastic processes, queuing theory, Markov chains, and post optimality analysis. In each course, real-world problems are modeled using math elements, formulated for computer OR software, programmed into spreadsheets, solved by the Excel Solver, and implemented post optimality and sensitivity analysis. Students practice phases of an OR study by solving problems. For each problem, students define the problem, formulate a math model, develop a spreadsheet model, use a software and/or EXCEL to derive solutions, and write a report on their findings and recommendations. Evaluation include: exams, homework, individual and team projects. The department uses the written reports of these team and individual projects for program assessments. I will present the course syllabi, innovative instructional strategies, assessment methods, individual and team projects, technology, and reports completed by students. (Received July 22, 2008)