Zicklin School of Business, Baruch College
Graduate Assurance of Learning

MS Program: **QUANTITATIVE METHODS AND MODELING**

Learning Objective	3. Exceeded expectations	2. Met Expectations	1. Failed to Meet Expectations	Score*
Student will be able to construct a (mathematical) model of a (business or other) problem; i.e. a mathematical representation of the problem in algebraic (or other) terms.	Includes the possibility of doing nothing, i.e. do not produce either line. Is quite accurate w.r.t. the cost structure. Accurately represents all of the nuances of the problem. In addition building in the flexibility to expand and/or change the model based on what is learned.	Defines the decisions that need to be made. Constructs the tree correctly: specifically the order of the decisions. Includes the posterior probabilities Accurately represents the essence of the problem making simplifying assumptions when appropriate.	Does not construct the tree correctly. Misses key aspects of the problem.	
Students will be able to analyze the problem using applied mathematics, operations research, management science, or other quantitative techniques.	Considers all possible strategies. Realizes the need for sensitivity analysis. Considers many alternatives and variations of the assumptions of the problem. Draws meaningful conclusions about the underlying real-world problem based on the analysis.	Computes the posterior probabilities accurately. Puts all of the data into the tree correctly. Understands the meaning of the expected payoff. Computes things correctly even if the model is incorrect. Uses the analytical technique correctly and understands the meaning of the result. In addition does the required sensitivity analysis.	Computes things incorrectly, puts in the wrong data, and/or draws conclusions in error. Applies the technique incorrectly and/or does not understand the result.	

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Students will be able to study a real world problem by constructing a model and then analyzing the model.	Considers various alternatives and analyzes multiple models to decide which is best. Validates the model under several scenarios. Constructs sub-models to estimate unattainable data.	Defines the problem clearly. Constructs a model which accurately reflects the underlying problem. Makes needed simplifying assumptions. Collects the needed data and uses it correctly. Validates the model to some degree.	Produces a model which is seriously inaccurate. Draws conclusions which are not justified from the study.	
Comments	***Mark N/A if not applicable**			

Learning Goal (one per page): **Operations Research & Mathematical Modeling**