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Class Name & Number:

IOM 547 - Designing Spreadsheet-Based Business Models - Spring 2014 (16282) – 6:30-9:30 PM - OCC

Course Description:

Spreadsheets are convenient and widely available platforms for organizing information and performing "what if" analyses. Excel therefore, has become an indispensable tool for business analysis. This course will focus on structuring, analyzing and solving managerial decision problems on Excel spreadsheets.

This course is not about becoming an Excel expert, but about modeling through Excel. Its goal is to train you to become an effective modeler who can build sound models to solve business problems.

We will study four broad classes of managerial problems:

1. **Data Analysis**: How to summarize available data into useful information. The cost of collecting data has declined fairly dramatically and most firms now have a fair amount of data. The first few, perhaps the most useful, steps in understanding and structuring a business decision is to find out what data is available and organizing it to support decision making.
2. **Resource Allocation**: How to optimally allocate a limited pool of resources among available opportunities. This is the most common managerial problem, occurring in every functional area. Examples in finance include constructing an optimal risk-return portfolio, and capital budgeting. Examples in marketing include media planning, and sales force territory planning. In operations management resource allocation problems arise in capacity, logistics and operations planning.
3. **Decision Analysis/ Contingent Decisions**: How to synthesize a sequence of decisions involving uncertainty. An intuitive approach to handling uncertainty is to explore the possibility of deferring a decision until some uncertainty is resolved, especially when the stakes are high. If we can we should make sequence of decisions instead of one big decision. Business examples where such decision techniques are used include dynamic portfolio management, new product development, and capacity expansion planning.
4. **Risk Analysis**: How to incorporate uncertainty in problem parameters. Almost always managerial decisions are based on anticipated states of the business environment. Clearly as the decision horizon becomes longer there is an increase in uncertainty. Managers have to carefully consider different potential scenarios while making decisions. In this part of the course we will learn how to explicitly incorporate uncertainty into business models.

Key Concepts:

- Data analysis
- Resource allocation
- Optimization
- Contingent decisions
- (decision tree)
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- Risk Analysis
- Monte Carlo simulation
- Modeling essentials
- Models in finance, marketing and operations

Why Take This Course:

- Spreadsheets are convenient and widely available platforms for organizing information and performing "what if" analyses.
- Excel has become an indispensable tool for business analysis and knowledge of how to use it as a modeling application is essential.

Career Focus:

Trains students to become effective modelers who can formulate, analyze, and solve business problems in various functional areas. This course is particularly aimed at students who want to develop their modeling skills to become successful management consultants, financial analysts, venture capitalists, marketing researchers, product managers, operations specialists, and project managers.