



Managerial Economics and Decision Sciences

4 majors:

Analytical Consulting

Decision Sciences

Managerial Economics

Operations Management

An electronic copy of this presentation
is at <http://www.kellogg.northwestern.edu/meds/deptinfo/majors.htm>



Analytical Consulting

A quantitative, analytical approach to strategic managerial consulting

- In recent years, a significant fraction of Kellogg graduates accept consulting positions upon graduation.
- Kellogg faculty are at the forefront of developing analytical models and methods.
- Courses focus on:
 - quantitative skills (e.g., using statistics, optimization, or simulation methods)
 - analytical frameworks (using formal modeling based on microeconomics and/or game theory)
- Possible major combinations:
 - Accounting
 - Finance
 - Marketing



Analytical Consulting

A quantitative and analytical approach to strategic managerial consulting

Students
must take
four courses,
including at
least one
from each
category:

Decision Frameworks:

[DECS 450](#) Decision Analysis

[MECN 446](#) Pricing Strategies

[DECS 452](#) Strategic Decision Making

[MECN 450](#) Macroeconomic Analysis for Management

Analytical Strategy

[MECN 441](#) Competitive Strategy and Industrial Structure

[OPNS 454](#) Operations Strategy

[MGMT 452](#) Strategy & Organization

Quantitative Models

[DECS 415](#) Analytical Consulting Lab

[MGMT 469](#) Empirical Methods In Strategy

[MKTG 450](#) Research Methods In Marketing

[OPNS 450](#) Spreadsheet Modeling for Managerial Decisions

[OPNS 455](#) Logistics and Supply Chain Management



Decision Sciences (DECS)

Understanding decision making in dynamic and/or uncertain environments

- ***What is decision sciences?***

- Most important decisions are characterized by *uncertainty* about the future. Moreover, decisions may be made over time (*dynamic*) and their payoffs may depend on what other people do (*strategic interaction*)
- Decision sciences build analytical frameworks to help you make, understand and communicate about such decisions
- Decision science techniques have become increasingly important in general consulting, oil and natural gas, automobile, transportation and pharmaceutical companies
- Grounded in principles of probability, statistics, dynamic processes and game theory



Decision Sciences (DECS)

Understanding the dynamic nature of decision making

- *Core classes:* DECS 433 and 434
 - Usually taken in fall and winter quarter
 - Presents the basic framework for decisions under uncertainty, involving probability theory and statistics
 - The prerequisite tools for most other courses at Kellogg
- Turbo version: DECS 445



Decision Sciences

The “Mathematical Toolbox” used to understand the dynamic nature of decision making

Students are required to take any three of the following courses that are offered:

DECS 445 Turbo Decision Making and Statistics

DECS 450 Decision Analysis

DECS 452 Strategic Decision Making

OPNS 450 Spreadsheet Modeling for Managerial Decisions

DECS 415 Analytical Consulting Lab

MECN 446 Pricing Strategy

MGMT 469 Empirical Methods in Strategy



Managerial Economics (MECN)

Examining decision-making in management

- ***What is managerial economics?***

- Many firms create enormous amounts of economic value, yet they still fail in achieving sustained profitability
- Managerial economics builds a framework that analyzes the creation and distribution of value in the market place
- Managerial economics analyzes the interaction of fundamentals (demand, cost, nature of competition, and government policies) that determine prices, market size and share
- Grounded in principles of microeconomics and game theory



Managerial Economics (MECN)

Examining decision-making in management

- *Core class:* MECN 430
 - Usually taken in the winter or spring quarter, sometimes fall.
 - Presents the basic microeconomic/game theoretic framework for the analysis of perfect competition, oligopoly and monopoly
 - A prerequisite for many management, strategy and finance courses that build on the basic microeconomic paradigm



Managerial Economics (MECN)

Examining decision-making in management

The managerial economics major:

- Key analytical tools serving both industry-based and function-based careers. Especially suited for careers in management consulting
- Includes demand and cost analysis, pricing strategies, market structures, incentives and information, and game theory



Managerial Economics

Examining decision-making in management

Students are required to take three of the following courses, at least two of which must be MECN courses:

MECN 441 Competitive Strategy & Industrial Structure

MECN 446 Pricing Strategies

MECN 450 Macroeconomic Analysis for Management

MGMT 452 Strategy & Organization

MECN 499 Independent Study

MGMT 444 Health Care Economics & Strategy

SEEK 470 Public Economics for Business Leaders

MGMT 441 Intellectual Capital Management



Operations Management (OPNS)

Managing the supply chain of processes and resources

- ***What is Operations Management?***
 - Aside from Marketing and Finance, Operations is one of the three key functions in most organizations
 - Operations is at the heart of any firm's ability to transform inputs into the goods and services that it supplies its customers.
 - Well-managed ops can provide significant strategic advantage to a firm: Wal-Mart, FedEx, Toyota, etc.
 - On the other hand, a lack of focus on ops can be a significant barrier to success as demonstrated by many e-commerce firms.



Operations Management (OPNS)

Managing the supply chain of processes and resources

- *Core class:* OPNS 430
 - Usually taken in winter or spring quarter
 - Presents an overview of the strategic impact of operations and how to improve processes and supply chains



Operations Management (OPNS)

Managing the supply chain of processes and resources

- The operations major is designed with two specific career paths in mind: consulting and general management.
- High demand in firms focusing on quality - health services, government, transportation, retail, airlines, insurance, banking and others.
- Possible major combinations:
 - Finance (operating functions of banks and other financial institutions)
 - Marketing (management of complex inventory-distribution-warehousing systems linking retail, wholesale, and manufacturing)



Operations Management

Managing the supply chain of processes and resources

Students
are required
to take any
three of the
following
courses that
are offered:

OPNS 450 Spreadsheet Modeling for Managerial Decisions

OPNS 454 Operations Strategy

OPNS 455 Logistics and Supply Chain Management

OPNS 482 Service Operations

OPNS 499 Independent Study

DECS 415 Analytical Consulting Lab

Or any 900 level OPNS course