WILMINGTON UNIVERSITY
COLLEGE OF BUSINESS
BASIC COURSE INFORMATION

COURSE TITLE: Optimization for Business Analytics

COURSE NUMBER: MBA 7725

PREREQUISITES: MBA 6300

I. RATIONALE:

Optimization modeling knowledge and skills are increasingly in demand by contemporary business organizations to support data-driven decision-making. Students in this course will develop a full understanding of optimization modeling, as well as the ability to synthesize the statistical results into an actionable set of findings and recommendations to guide business decision-making.

II. COURSE DESCRIPTION:

This course explores how to develop, implement and us**e** optimization techniques for determining optimal data-driven solutions for a variety of business problems. Topics that will be covered include: introduction to optimization; linear programming; integer linear programming; sensitivity analysis; linear programming models for marketing, manufacturing, ingredient blending, employee scheduling, financial investments, transportation, and resource assignment applications; and network modeling for shortest path, maximal flow, and minimal spanning tree applications. This course will emphasize using Excel for building and implementing linear programming optimization models.

III. MAJOR INSTRUCTIONAL GOALS:

GOAL A: Critically examine business decision-making scenarios to assess the potential usefulness of optimization techniques.

Learning Outcomes:

A-1. Assess a business decision-making scenario to determine the potential applicability of optimization models.

A-2. Dissect a business decision-making scenario to identify the key decision(s) and relevant variables for inclusion in an optimization model.

A-3. Examine available data for a business decision-making scenario to assess its potential suitability for use in creating optimization models.

GOAL B: Demonstrate mastery of the principles associated with creating appropriate optimization models.

Learning Outcomes:

B-1. Create network models for business decision-making scenarios.

B-2. Select appropriate non-integer and integer optimization techniques for a business decision-making scenario.

B-3. Identify and appropriately format relevant data for selected optimization models.

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