

**WILMINGTON UNIVERSITY**  
**COLLEGE OF BUSINESS**  
**BASIC COURSE INFORMATION**

**COURSE TITLE: Simulation for Business Analytics**

**COURSE NUMBER: MBA 7730**

**PREREQUISITE: MBA 6300**

**COURSE DESCRIPTION:**

This course explores how to develop, implement and use simulation methods for business decision-making. Students will build simulation models to answer practical questions that are motivated by operational business decisions, such as determining optimal queuing systems, inventory policies, equipment reliability, and project management for an organization. This course will emphasize using Microsoft Excel, as well as Excel add-ins as modeling tools.

**MAJOR INSTRUCTIONAL GOALS:**

**GOAL A:**

Students will critically examine business decision-making scenarios to assess the potential usefulness of simulation techniques.

**Learning Objectives:** The student will:

- A-1. Assess a business decision-making scenario to determine the potential applicability of simulation techniques.
- A-2. Dissect a business decision-making scenario to identify the key decision(s) and relevant variables for inclusion in a simulation model.
- A-3. Examine available data for a business decision-making scenario to assess its potential suitability for use in simulation models.

**GOAL B:**

Students will demonstrate mastery of the principles associated with selecting and creating appropriate simulation models.

**Learning Objectives:** The student will:

- B-1. Select appropriate simulation techniques for a business decision-making situation.

- B-2. Identify and appropriately format relevant data for use in selected simulation techniques.
- B-3. Create deterministic, stochastic, and discrete event simulation models using Microsoft Excel as a simulation modeling tool.
- B-4. Develop and interpret sensitivity analysis results for simulation models.

**GOAL C:**

Students will utilize critical thinking skills to formulate a recommended solution(s) for a complex case study business problem using appropriate simulation techniques.

**Learning Objectives:** The student will:

- C-1. Evaluate the potential effectiveness of different simulation modeling techniques.
- C-2. Create and implement an appropriate simulation model.
- C-3. Formulate decision-making recommendations based upon simulation analysis results.
- C-4. Communicate and defend analytic-based recommendations to non-analytic business decision-makers to