**ANL 430 Simulation and Risk Analysis**

**Instructor:** Ronald Wright

**Office:**  MH 115

**Office Hours:** T/TH 11:30 – 12:30, WED 11:00 - Noon

**Phone:** 445-4370

**Email:** wright@lemoyne.edu

**Course Description:** This course is designed to provide students with basic understanding of concepts of simulation and provide them the opportunity to design several simulations for various applications. Methodologies are introduced in the context of financial and operations applications and include techniques for risk analysis. Models will include both event and process simulations. Simulation software packages are introduced as tools for problem solving.

**Course Goals and Objectives:** Upon successful completion of this course, students will be able to: 1) understand the contexts in which simulation models can support effective decision making, 2) understand to the need to be able to model risk and uncertainty in many analytical models, 3) be able to create basic simulation models in Excel and demonstrate a thorough understanding of the statistical analysis that underlies simulation models, 4) be able to use professional simulation software and to understand the inherent limitations, 5) be able to create effective simulation models that appropriately represent risk and uncertainty, and 6) be able to apply simulation models in a variety of functional settings explicitly including analysis of risk in the context of financial investments.

**Text:** *Introduction to Simulation and Risk Analysis*, a workbook, is available in the bookstore. The workbook is required and will be used each day in class. Since this is the only text, attendance is very important.

**Class Activity:** Class will be a combination of lecture and class activities. Most of the class activity will involve computer usage.

**Computer Software:** The primary computer software will be Excel. Crystal Ball Excel Add-In will be incorporated in many Excel models.

**Grading:** Your final grade will be comprised of the following components:

* Assignments and in class activities distributed throughout the semester. Assignments turned in late will lose 10 points for each day. (25% of total)
* Two tests. Tests are designed to test basic understanding of simulation concepts and applications. Two week notice will be given for the date of each test (50% of total)
* Final Exam covering all course content and given at time assigned by the registrar’s office. (25% of total)
* **Students with Disabilities**: If you feel that you are a student who may need academic accommodations due to a disability, then you should immediately register with the Director of the Academic Support Center. ASC is the Le Moyne College office that authorizes special accommodations for students with disabilities. If you have a documented disability and you wish to discuss academic accommodations, please contact the instructor within the first week of class.