Math 416/516—Simulation Methods
Fall 2005
TU, TH 9:10–10:25 a.m.; TROY 116
Please note that this document has two pages.

Instructor:

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Outline of course:

The course will provide an introduction to *discrete event computer simulation* focusing on *modeling, programming languages, and statistical considerations.*

We will use the textbook

Modern Statistical Systems and GPSS Simulation, Second Edition
Z. A. Karian and E. J. Dudewicz
CRC Press, 1999.

The specific topics to be covered include the following:

(a) Introduction to discrete event computer simulation
(b) Introduction to GPSS
(c) Random number generation and testing
(d) Generating realizations from random variables
(e) Intermediate GPSS
(f) Statistical design and analysis of simulations
(g) Advanced GPSS features

Grades:

For students enrolled in Math 416, the course grades will be based on homework assignments.
For students enrolled in Math 516, the course grade will be based on homework assignments and a case study weighted as follows:

- Homework assignments—75%
- Case study—25%

The assignments contain theoretical as well as programming questions and would be based on material covered in class. Some programming questions would require a working knowledge of a general purpose programming language such as C or FORTRAN, while the others would be based on GPSS. *It is assumed that you have a working knowledge of a general purpose programming language.*

GPSS would be introduced and discussed in class.

All students enrolled in this course will have accounts in one of the Windows computer laboratories of the Department of Mathematics. You will be able to access GPSS from the computers in this laboratory. Note that the textbook comes with a disk containing a version of GPSS, called GPSS/PC. This is a DOS-based product. The version that is accessible as mentioned above is based on Windows. While there are similarities between the two versions, the former is better in many ways. Therefore *you are advised to use the Windows version of GPSS to be introduced in class.*

Since there are no in-class, limited-time assessments, completeness, thoroughness and a certain amount of originality are expected in your responses to questions in the assignments and the case study. Please note that the standard expected in responses to questions in this course would therefore be higher relative to the standard expected in a course with such in-class, limited-time assessments.

I expect individual work in the preparation of solutions to questions in the assignments and the case study.

Disability Resource Center (DRC)

Reasonable accommodations are available for students who have a documented disability. Please notify the instructor during the first week of classes for any accommodations needed for the course. Late notification may result in the requested accommodations to be unavailable. All accommodations must be approved through the DRC in Administration Annex, room 205 (335-1566, drc@mail.wsu.edu) in Pullman.