

Master Course Syllabus

Department: Engineering Technology **Course Prefix/Number:** MET 426

Official Course Title: Computer Simulation

Master Syllabus Approved by Department on: 01 / 30 / 04
month date year

- I. **Catalog Description:** An introduction to systems simulation with special emphasis on discrete event simulation, random number generators, common simulation approaches, independence issue, steady state conditions, survey of simulation languages, model validation, and output analysis. The student will be able to develop simulation models of industrial systems and to understand the issues involved in simulation studies.

- II. **Prerequisites:** None

- III. **Expanded Course Description:** An introduction to how computer simulation is used to analyze and improve the performance of manufacturing systems. To demonstrate how simulation accounts for interdependencies and variation and provides insights into complex systems that cannot be obtained using other analysis techniques. The student is provided with definitions and a working knowledge of such terms as stochastic versus dynamic systems, discrete and continuous systems, random number generation, and independence. How to define and conduct a successful project will be presented. A number of lab exercises will be completed using specific simulation software. A term project will be completed and presented to the class.

- IV. **Knowledge Outcomes:** Students are expected to have knowledge of the importance of the following topics; the basic definitions and concepts of computer simulation, how to successfully approach and model a reasonably complex system, the basic use of a specific computer simulation software, define, conduct and present a term project.

- V. Unless otherwise stipulated in this master syllabus by the department, the following items are subject to faculty discretion as described in each faculty member's individual course outline/syllabus:
 - a) Course Requirements? (grading/evaluation procedures; class attendance policy; term papers, projects, field assignments; examinations; class participation, etc.)

 - b) Required Text(s)?

 - b) Bibliography?

- VI. **Academic Honesty:** Cheating, plagiarism (submitting another person's materials or ideas as one's own), or doing work for another person who will receive academic credit are all-impermissible. This includes the use of unauthorized books, notebooks, or other sources in order to secure or give help during an examination,

the unauthorized copying of examinations, assignments, reports, or term papers, or the presentation of unacknowledged material as if it were the student's own work. Disciplinary action may be taken beyond the academic discipline administered by the faculty member who teaches the course in which the cheating took place.

- VII. Students With Disabilities Policy: It is the policy of Tarleton State University to comply with the Americans with Disabilities Act (ADA) and other federal, state, and local laws relative to the provision of disability services. Students with disabilities attending Tarleton State University may contact the Office of Disability Services at (254) 968-9478 to request appropriate accommodation. Furthermore, formal accommodation requests cannot be made until the student has been officially admitted to Tarleton State University.

Department Head Signature/Date:

Signature

_____/_____/_____
Date