

# Welcome to

## OR 441 : Modeling and Simulation

- Instructor and TA
- Lectures, Section and Office hours
- Attendance
- Text books
- Grading , Projects and Quizzes
- Course Projects
- Course Outline

# OR441: Course Syllabus

## Instructor:

**Name:** Dr. Khalid A. Alnowibet

**Office:** AB 27 Building 4

**Tel. :** 011- 4676334

**e-mail:** knowibet@ksu.edu.sa *Use “OR441” in the subject*

## Lectures:

Sec# (33214) : Sun. , Tues., Thur. 8:00 am to 8:50 am

Sec# (59838) : Sun., Tues., Thur. 11:00 am to 11:50 am

Sec# (47517) : Wed. 12:00 am to 2:50 am

Class Room: AB 19 Building 4

# OR441: Course Syllabus

## Office Hours:

- Use email for question
- Walk-In meetings: Mon., Wed. 8:00 am to 10:00 am
- Appointment: to arrange : by call or , send an email

## Tutorial:

- Class Room: AB 19 Building 4
- Student **MUST** bring his own laptop
- Time to be announced later

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## Attendance:

- Students **must** attend all lectures on time.
- Attendance will be taken on daily basis. Students with absence of more than 25% of total classes will not be permitted to attend the final exam.
- There is no marks designated to attendance.
- Students with attendance exceeding 90% of total lectures **MAY** get extra credits.

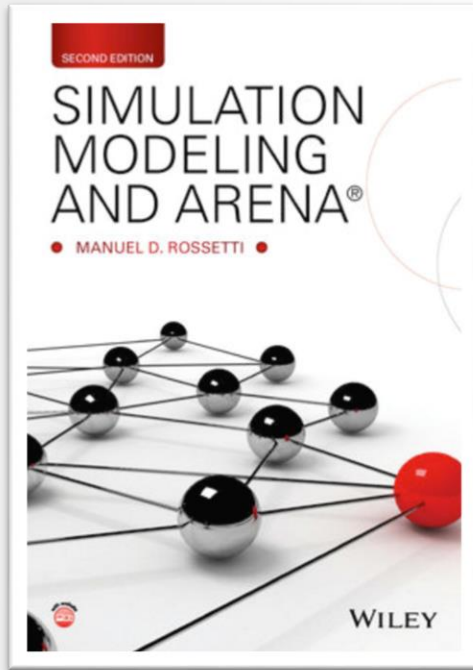
# OR441: Course Syllabus

## Nature of the Course:

- Very enjoyable.
- Very applied.
- Mixed between theory and programming.
- Many theories you learned in probability you will apply here.
- Reading is not enough. You **MUST** apply
- Have ***FUN***

# OR441: Course Syllabus

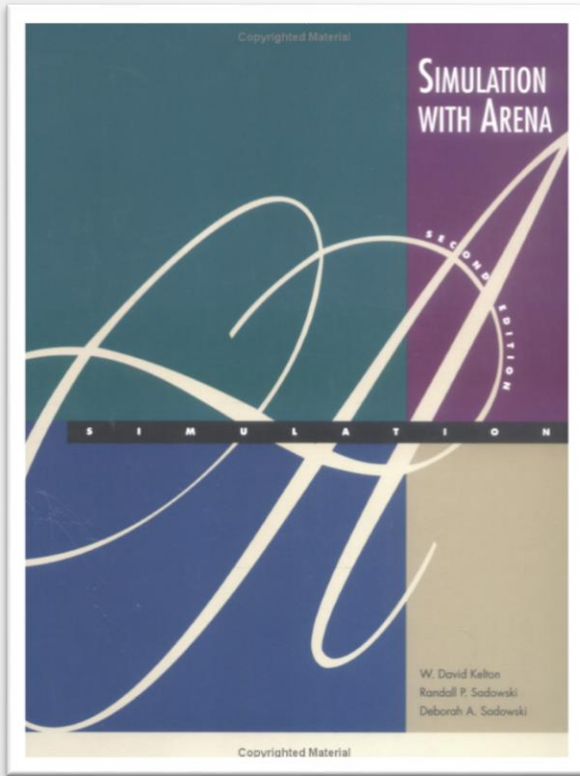
## Text books:



“Simulation Modeling and Arena”  
By Manuel Rossetti  
Ch. 1, ... , 10

# OR441: Course Syllabus

## Text books:



“Simulation with Arena”

By

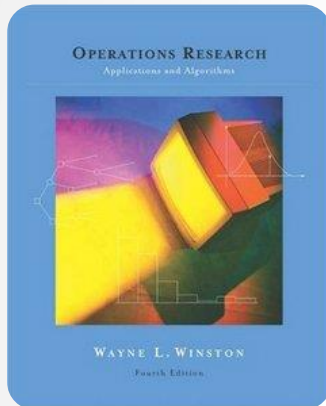
David W. Kelton,  
Randall Sadowski,  
Deborah Sadowskiel

*Available PDF online*

*There is a book for Arena User's Guide  
also available on line PDF*

# OR472: Course Syllabus

## Other Good Resources:

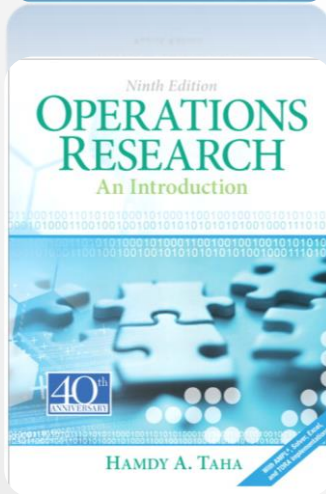


“Operations Research: Applications and Algorithms”

By Wayne L. Winston

Ch. 21, 22, 23

*Available PDF online*



“Operations Research: An Introduction”

By Hamdi Taha

Ch. 19

*Available PDF online*



# OR441: Course Syllabus

## Quizzes

Almost every week there will be a quiz on the material presented in the lectures of the past week. The purpose of these simple, quick and frequent quizzes is to keep students focused and grasp their attention throughout the lecture.

## Midterms

The course will have three midterm exams. One midterm every 3-4 weeks . All exams will be in the tutorial period

# OR472: Course Syllabus

## Grading

1.	Homework, Quizzes	15%
2.	First Midterm Exam	15%
3.	Second Midterm Exam	15 %
4.	Second Midterm Exam	15 %
5.	Final Exam	40 %

**Be Careful:** most of the evaluation will be during the semester ***NOT*** on the final

# OR441: Course Syllabus

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## Course Outline:

1. Simulation Modeling
2. Generating Random Numbers
3. Spreadsheet Simulation
4. Introduction to Simulation in Arena
5. Modeling Basic Processes
6. Modeling Randomness in Inputs for Simulation
7. Analyzing Simulation Output
8. Modeling and Simulating Some Real life Systems

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# OR441: Course Syllabus

## Course Objectives:

*After you successfully pass the course, you will be able to*

1. Understand the concept of simulation and how to apply it.
2. How to analyze real systems for modeling.
3. Build a simple simulation models by spreadsheets
4. Generate random numbers from any distribution
5. Use the simulation package Arena for modeling intermediate systems.
6. Choosing proper probability distribution for input modeling
7. Identifying performance measures for simulation
8. Analyzing simulation output for decision making
9. Building simulation models for some key real life systems

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