

Teaching Simulation: An Educator's Workshop

Shared insight into using the textbook:
Applied Simulation Modeling and Analysis using Flexsim

June 28-29, 2011

Orem, Utah, USA

Objective:

Help participants improve their effectiveness in teaching simulation through the unique approach set forth in the recently released textbook and the power of the Flexsim simulation software.

*Note, this is not a Flexsim software training course; however, basic modelling and analysis using Flexsim is integrated into the workshop.

Presenters:

Allen G. Greenwood, Ph.D., P.E.
Mississippi State University, USA

Malcolm Beaverstock, Ph.D.
General Mills, Inc (Ret.)

Requirements:

Participants are expected to bring their own computers and have a basic knowledge of simulation theory and applications. A review of the textbook prior to the course would be helpful. Knowledge of Flexsim is not required.

Schedule:

As shown below, the workshop is composed of ten 1.5-hour sessions over two days.

Day 1

8:00	-	8:30	Arrival & check in
8:30	-	10:00	Session 1-1
10:00	-	10:15	Break
10:15	-	11:45	Session 1-2
11:45	-	12:15	Lunch
12:15	-	1:45	Session 1-3
1:45	-	2:00	Break
2:00	-	3:30	Session 1-4
3:30	-	3:45	Break
3:45	-	5:15	Session 1-5
6:30			Course Dinner

Day 2

8:00	-	8:30	Arrival & check in
8:30	-	10:00	Session 2-1
10:00	-	10:15	Break
10:15	-	11:45	Session 2-2
11:45	-	12:15	Lunch
12:15	-	1:45	Session 2-3
1:45	-	2:00	Break
2:00	-	3:30	Session 2-4
3:30	-	3:45	Break
3:45	-	5:15	Session 2-5

Workshop Content (by session):

- 1-1 Background and Approach: Introduction to the book's premise and structure; discussion of teaching objectives, strategies, and approaches; overview of teaching support materials.
- 1-2 Introducing Simulation and the Occasional User: Characteristics and needs associated with the various levels of simulation users; discussion of methods for introducing the basic concepts of simulation and the value it brings to the organization; getting students to quickly understand how simulation can be used through problem solving. *Workshop exercise.*
- 1-3 Setting the Application of Simulation in a Project Context: Discussion of the simulation modeling and analysis process, definition and role of stakeholders, definition of objectives and performance measures, and the development of conceptual models—including the use of the Object Flow Diagram. *Workshop exercise.*

- 1-4 Basic Model Building: Exploring the basic software application environment including the functional components used in simulations. Review the structure of exercises presented in the textbook. Start building simulations in Flexsim using static and mobile resources. *Workshop exercise.*
- 1-5 Basic Model Analysis: Basic analysis of simulation model output: designing, conducting, and analyzing experiments involving alternative scenarios using Flexsim's Design of Experiments module. *Workshop exercise.*

Dinner Topic: Prof. Greenwood will relate experiences from teaching undergraduate, graduate, and short simulation courses using the textbook and a project-based approach.

- 2-1 Extending Model Capabilities: Incorporating operations logic, data management, timetables usage, and reliability. Leveraging Flexsim capabilities. *Workshop exercise.*
- 2-2 Customizing Model Objects: Introduction to advanced modeling topics such as Flexsim's hierarchical software architecture, scripting, and inter-object communication. *Workshop exercise.*
- 2-3 Related Simulation Topics: Simulating continuous (fluid) and hybrid systems (continuous and discrete), incorporating production schedules into a simulation. *Workshop exercise.*
- 2-4 Pulling It All Together: Recap and integrate the topics of the previous sessions into the goal of improving the effectiveness of teaching simulation. *Workshop exercise.*
- 2-5 Special Topics: Based on input from the participants, revisit earlier topics, either to clarify or explore in more depth, and/or introduce new topics.

Workshop Fee & Registration

The Educator's Workshop will be held at Flexsim's Orem, Utah office (a 30 minute drive from the Salt Lake City Airport). The fees for the course are as follows:

If registered by May 20, 2011	\$395 per Attendee
If registered after May 21, 2011	\$495 per Attendee

Payment may be made by purchase order, check, or credit card. If the textbook ***Applied Simulation Modeling and Analysis using Flexsim*** is purchased prior to the workshop, the workshop fee will be reduced by \$100.

In addition to course instruction, attendees will receive lecture and other support material for use in teaching a simulation course using the textbook. They will also receive a complimentary copy of the textbook ***Applied Simulation Modeling and Analysis using Flexsim*** and a 6-month timed student version of Flexsim Simulation software. Those who purchase the textbook or student license prior to registering can deduct the costs from the course fee.

To register and pay for the workshop, contact Kim Wills or Shanna Warr by phone at (801) 224-6914 or by email at kim.wills@flexsim.com and shanna.warr@flexsim.com. Seating for the June 28-29 course is limited so please register early. Once you are registered, we will send you a list of nearby hotels and directions from the Salt Lake City Airport to Flexsim's office.

The Educational Workshop is sponsored by Flexsim Software Products, Inc.
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