

Basic GAMS Class Introduction

On Line Version

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Basic GAMS Class Introduction

Objectives and Method

A. Learning objectives

1. GAMS and GAMS use
 - a. Will start elementary but go fast
 - b. Backup provided by examples and documents
2. Model debugging
3. Input - Output improvement

B. Time is short -- Back up Course Materials

1. Reference materials on pdf backing up course
2. Personalized PDF of Overheads
3. Zip file
 - a. All class examples
 - b. Reference Materials

C. Mix of listening and doing hopefully about 60/40

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Class materials – a guide to their structure

This class is supported by a number of reference documents and class examples.

The fundamental support documents are the **overheads** that are distributed in the notebook. The overall course outline also indicates the name of the overhead set that will be under use during each course segment.

The overheads refer to a number of other course support documents and class examples. These include **class examples**, and **reference text materials**.

Class examples Generally, the class examples appear in the subdirectory **example** and are then contained in the subdirectory consistent with the name of the overheads. Thus, when working with the introductory material the overheads are called **gaminthro** and the class example files are in the **example/gaminthro** subdirectory. Generally I try to place filenames in **green** within the overheads.

Reference text materials. Generally the reference text materials appear under the subdirectory **document**. In the class overheads references to these materials are colored in **purple**.

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Class materials – a guide to their structure

A list of part of the Reference Documents and their Function

Reference Item Name	Class Intro	Basic GAMS	Firm Analysis Modeling	Multiple Locations	GAMS for Applied Modeling	Improved Output / Spreadsheets	CGE Modeling
Outline	X						
Newbook.pdf		X		X	X	X	
cgecoursenotes.htm, cgeingams.pdf		X			X		X
erwinhomepage.htm		X			X	X	
Fixmodel.pdf		X	X		X	X	
Rutherford.htm					X	X	X
McCarl User Guide (through IDE)		X			X	X	X
Tips		X			X		
Usegck					X		
Probab							

Other documents can be gotten from GAMS web site
www.gams.com and www.gams.de

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Additional Reference Documents and their Function

Reference Name ^a	Brief Title	GAMS Features	Improved GAMS usage	Model Debugging	GAMSCHK Usage	Large Scale Modeling
fixmodel.pdf	So Your GAMS Model is not Working Right by McCarl	X	X	X	X	X
gnupltxy.pdf	GNUPLTTY Users guide by Schneider	X	X			
Newbook.pdf	Applied Math Programming by McCarl and Spreen		X	X		X
Rutherford.htm	Web page accessing utilities by Rutherford	X	X			
Sensitivity Analysis.htm	GAMS document on sensitivity analysis				X	
tips.pdf	Tips on GAMS usage by McCarl	X	X			
usegck.pdf	An article on using GAMSCHK			X		X
erwinhomepage.htm	Erwin Kalvahagen's web site with a number of utilities		X	X		X
createlib.pdf, uselib.pdf	Material on building and using library in IDE	X	X			
gamsmodeling.pdf, lp.pdf, mip.pdf	Erwin Kalvahagen's book chapters on applied GAMS modeling	X	X			X
The Excel Interface Doc.htm	XLIMPORT, XLEXPOR, XLDUMP documentation	X	X			
cgecoursesnotes.htm	CGE class notes	X	X			

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Class materials – a guide to their structure

Mccarclass Zipfile Contents

Document subdirectory	All resource materials
Example subdirectory	All examples plus some other models. Generally accessed through IDE library
Yourwork subdirectory	Blank to start. Present to catch your work
Fixmodelsubdirectory	Examples from fixmodel book that is in document directory
zipfile subdirectory	Installation files as follows
mccarclass.exe	contains all class files. Run this to install files without default write protection
gamsadds.exe	contains all additions to GAMS system mainly documents for docs directory and inclib files like gnupltxy.
Allexamples.exe	installs library for STUDIO
Root directory	contains setup.bat that installs self extracting archives, along with installation instructions and class license file

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Course Schedule

Day 1 (all times US Mountain – Denver)

8:00-8:30	Introduction A. Participant Introduction B. Class Introduction	
8:30-9:30	Intro to GAMS part 1	gamintro
9:30-10:00	Break and Hands on 1	
10:00-11:00	Intro to GAMS part 2 Model Inspect/Document	gamint2 inspect
11:00-11:30	Break and Hands on 2	
11:30-12:15	Power of GAMS	power
12:15-1:15	Firm Modeling	firmimp
1:15	Recess for day	
1:15- 1:45	Optional dialogue session	
Over night	Hands on 3 and possibly 4	

Basic GAMS Class Introduction

Course Schedule

Day 2 (all times US Mountain – Denver)

7:30-8:00	Question session	
8:00-8:40	Quick Conditionals and Report Writing	qcondrep
8:40-9:15	Finish Firm Modeling	firmimp
9:15-9:45	Good Modeling Practice	goodmodl
9:45-10:15	Hands on 5	
10:15-11:15	Fixing Misbehaving Models	fixmod
11:15-12:00	Hands on 6	
12:00-12:30	Multiple Locations - transportation	multiloc
12:30-1:15	Forming and Solving NLPs in GAMS	nlp
1:15	Recess for day	
1:15- 1:45	Optional dialogue session	
Overnight	Hands on catch up (any of your choice)	

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Course Schedule

Day 3 (all times US Mountain – Denver)

7:30-8:00 Question session

Advanced Class Joins

8:00-8:15 Advanced Class Introduction

8:15-9:00 Using GAMSTUDIO [useide](#)

9:00-9:15 Documentation

9:15-9:45 Hands on 8

9:45-10:30 Controlling Algebra - Conditionals
and Sets [condition](#)

10:30-11:15 Hands on 9

11:15-12:00 Doing a Comparative Analysis [compare](#)

12:00-12:45 CGE modeling [CGE](#)

12:45 Recess for day

12:45- 1:15 Optional dialogue session

Overnight Comparative part of 11 and if interested 13

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Course Schedule

Day 4 (all times US Mountain – Denver)

7:30-8:00	Question session	
8:00-8:45	Output Improvement and Management	output
8:45-9:30	Hands on 10	
9:30-10:15	Spreadsheet Links	link
10:15-10:45	Hands on 11	
10:45-11:45	Small to Large Model Development	smlrg
11:45-12:30	A quick intro to GAMSpy	
12:30-12:45	Basic Wrapup	
12:45-1:00	Hands on Introduction	handson
1:00	Recess for Day	
1:00- 1:45	Optional dialogue session	

[Farewell to Basic Class People](#)