

**October 15, 2005**

## **To the participants of the Block Course “Combinatorial Optimization at Work”**

Now that the course is over we would be glad to get your feedback: critique, suggestions for improvements, etc.

We give presentations on numerous occasions, at meetings and institutions around the world about applied work done at ZIB or MATHEON. Almost always there is someone asking for material presented (pictures, computational results,...) so that he or she can use it in courses and seminars. In particular, colleagues are also interested in the presentation in a written form so that they can tell the “stories” to their students.

For that reason, we decided to schedule and hold the block course you just attended. It was a first attempt to put suitable material together. At this moment in time, there are available only the Power Point slides (and some films) you received on a CD-ROM.

In the next stage, short articles concerning the application problems will be written so that colleagues can teach from them (using updated ppt-slides) and students can read the material on their own. Creating the initial set of ppt-slides has already been a major piece of work, but writing the corresponding articles with the intended readership in mind will be an even more demanding job. Nevertheless, we (and a number of ZIB members and various colleagues) will try.

To find the right level of writing we would like to get some advice from you. Please look at the issues below and let us have your opinion.

- Was it worth spending two full weeks on such a course?
- What did you like?
- What did you not like?
  
- Was there too much teaching (in a very short time period)?
- Is a block course an adequate format for such a lecture series?
- What could be a more suitable format?
- Were the classes too long?
- Was the level of teaching “right”?
- Should there be more details about
  - the problems and their data
  - the theory behind the problem
  - the algorithms designed and used
  - the solution and implementation in practice?
- Should more theory be taught?
- Should one concentrate only on “little” problems that can be explained easily?
- Does it make sense to give broad overviews?

- Should there be more exercises?
- Did you like the exercises?
- Should the exercises be in a different form?
- Was it a good idea to make software and data available on the Web?
- Is it a good idea to use laptops in the exercises?
  
- What else would you like to see in the Power Point presentations?
- Was it worth visiting Volkswagen?
- Should one try to include such an excursion if the course is repeated?

An important aspect:

- What would you like to see written?  
This concerns depth, length and detail of the articles to be written.
- Should there be only articles on individual applications?
- Should there be overview articles?
- Should there also be some theory surveys or should these be integrated into the application articles?

Of course, we do not expect you to answer each of the questions asked, but your remarks and additional contributions will help us analyze the course and go in the right direction.

The final product of this “Combinatorial Optimization at Work” project (if we succeed finishing it) will consist of several items.

- There will be a printed book that contains the articles.
- The book will be available for download (for free) from the Web.
- All articles will be offered on the Web.
- There will be updates from time to time, including new articles.
- Data of real problem instances will be made available.
- Some software for the solution of the problems addressed will be made available for free on the Web.

We do hope that this offer will improve the teaching of applied mathematics, in particular, in combinatorial optimization (in Berlin and elsewhere).

If you have comments, please write to [groetschel@zib.de](mailto:groetschel@zib.de) and [koch@zib.de](mailto:koch@zib.de).

Martin Grötschel and Thorsten Koch