Guidelines for the project assignment

The project assignment is a compulsory part of the course and should be carried out by student groups. The results of this assignment contribute 50% of the final course score. It will therefore, require considerable efforts in time, input as well as critical thinking from each student. It is required that the student group will work independently throughout the project work including: information searching, literature study, data treatment/analysis, material compiling and the final reporting. Specific guidelines are listed below:

- Each group will consist of 2 to 4 students and will be assigned with a specific topic. Each student within the group must work actively and contribute to the project work and report writing.
- The suggested topics can be divided into following categories:
  a) Selected representative and interesting river basins, perform literature study, analyses, evaluation and assessment;
  b) Participant selected river basins, with good datasets for detailed analysis, perform basic analyses or data processing, and summarize the results.
- The final report should conform to international academic standard. This means that the report should follow the style in academic journals and books, with clear elements such as: abstract, background, aim, method, conclusion and full references. Tables and figures should be numbered and referenced to in the text. It should be possible to understand the text without looking at the figures or tables, and the figures should be understood without reading the text. When you state something, it must be backed up by literature reference, or logical arguments. (See links below on Harvard reference system, etc).
- The suggested length of the report is around 25 pages (about 600 words/page), including figures, tables and reference plus appendix. It is also suggested that you keep in mind that the report you write should be understood by ordinary readers rather than experts only.
- Deadline for submitting a DRAFT version of written report: 21 Sep., 2013 at 24:00. By submitting a draft version first you can get my feedbacks on what parts are good and what parts need to be improved.
- Deadline for submitting the written report: 19 Oct., 2013 at 24:00. Send by email to Linus and respective Opponent groups.
Project report instruction:

Example of project report structure (as a minimum setup; headings can be given more informative names):

Table of Content (TOC)
Abstract (and key words)
1. Introduction
   Background and problem definition
   Objectives
   Methods (methodology)
2. Resources - needs (review and today’s conditions; attacking the problems)
3. Research questions and analysis
4. IWRM in a sustainability perspective (including Roadmap application score analysis)
5. Discussion
6. Conclusion
7. References
   Appendix
   List of Figures and Tables

1) Abstract: The abstract should be exactly a mini summary of your work, nothing else.

2) The introduction: should be brief and maximum a few pages long. Here, a general background and a problem overview are given. Objectives of the work should be stated with delimitations and methodology for the work.

3) Research questions and analysis based on one of the four “IWRM basic contents”, from lectures 2 and 3.

4) Resources/needs: a description of the catchment should be given (physical boundaries, climate, hydrological characteristics, water balances (these need to be very general just to define general water availability), Problems such as water quality, water use, water management with a short historical overview, technical or non-technical aspects; etc. References to collected information should be given and full references listed in the reference list.

5) IWRM and sustainability: contains analyses of present problems occurring in the catchment and a discussion on what problems are likely to change in the near future (10-20 years). Important key words here are the role of IWRM in environmental, social, economic, and cultural sustainability of water resources. Roadmap application with scores should also be provided.

6) Discussion: can contain a synthesis of the problems occurring and discussion of possible ways to improve the present water management situation. This chapter contains fewer facts and more of your own interpretation and arguments for solving some of the present and future IWRM related problems.

7) Conclusion: summarizes the entire report, you must highlight the most important findings with your own words.
Project Assignments

Final Oral Presentation
Date: 25 Oct. 2013, 08:00—13:00
Venue: V:B

1. Each group gets 10-20 minutes (depending on how many groups we are) for the whole presentation! It is not required that every member of the group will talk; One person may do it for whole group (group members should stand in front). Keep in mind that 10 minutes is very short, so you need to choose what slides you want to show.

2. Each group will be required to act as an opponent, in the following way: For group one, the opponent is the NEXT group (group two); for the last group on the list, the opponent is group one.

3. Every group must send the project report (Word or PDF format) to the opponent members at the same time you send it to the coordinator (Word or PDF format) so that the opponent group and the coordinator will have time to read it.

4. During the presentation, the opponent(s) will question and comment on either the report or the presentation itself. Of course all the participants are encouraged to ask questions as well.

5. You must prepare the presentation slides and make it easy to be transferred to a PC before the presentation (email to me, USB-disk, CD, or your own PC).

The "Duty" for the Opponent group:

1. Written evaluation (max. half page), can be submitted to the coordinator afterwards.

2. Oral questions (directly after each Oral presentation, a few minutes). Max. 3 questions!
Project list:

1. Amazon River (or a major tributary)

2. Danube River

3. Mekong River

4. Jordan River

5. Nile River

6. Volta River

7. Tigris/Euphrates River

8. Limpopo River

9. A river basin suggested by the participant (write down the name and talk with me)

10. An analysis and review of a specific IWRM project implemented on a river basin.
Tips for information searching:

Academic information and literature searching is a very important issue in your future work as engineers or scientists. It is therefore included in this course as training in doing your project work. You should use any available technologies and methods for searching relevant information. Some times this part can require significant efforts and time.

Below are my concrete tips how you can get started:

1. Start by keywords searching, either via LU library system or Google scholar, maybe you get 100 literatures, sort out and use 5-10 RECENT publications.
2. Read these 5-10 publications, if anyone seems interesting and relevant, check ALL reference list in that publication! Find all of them.
3. Now you might have 50+ publications, browse them quickly to decide which ones can be used as reference in your project work.
4. Questions like “where we can find maps about precipitation, climate, evaporation, physical boundaries etc.” should be addressed to yourselves because I am sure there are a lot of information available.

/Happy information searching
Linus