Information for summer school instructors

Regine Hock, Update 2 June 2014

- Instructors are required to stay the entire length of the course. First, it is logistically challenging to get to or to get out of McCarthy. Second, a major purpose of the course is to provide students with ample opportunity to network and discuss with instructors. Third, all instructors supervise a group project throughout the length of the course. The project will then be presented by the students on the last day.
- All costs including airfare are covered, but there is no honorarium.
- As promised to our funding agencies all teaching material will be made available on our homepage after the course to be accessible to students beyond the summer school participants.

All instructors are requested to prepare the following contributions:

LECTURES
Each instructor will give one to two 1- to 1.5-hour lectures. Note that students have very diverse backgrounds. The idea is to compile a lecture that includes something interesting / new for all students. Lectures should be class-room/textbook type and not conference-type, although to make it interesting some latest research results may be woven into the lecture. Please prepare your lectures so that you finish within your time slot since the program is extremely tight. We can not go overtime for any of the lectures.

2.) LECTURE NOTES
In addition to the presentation, all lectures should be summarized in lecture notes (i.e. a mini textbook like compendium), in total roughly around 5-10 pages. It can be either fully formulated or in bullet/keyword form, but it should include the essence of your lecture and key figures/concepts.
See for examples:
http://glaciers.gi.alaska.edu/courses/summer-school/2010/material
http://glaciers.gi.alaska.edu/courses/summer-school/2012/material

3.) EXERCISES
Prepare a set of numerical / thinking exercises that aim to consolidate the material/concepts from the lectures (2x1 hour each afternoon for 2 sets of exercises). The exercises should not include computers (other than using them as calculators), i.e. try to come up with something that can be solved just on paper and a calculator. The idea is to make the students think and understand concepts and basic theory, and not to do data analysis (that is what the projects are about). The exercises should include a set of problems with increasing difficulty so that the students who are already familiar with some or all of the concepts can hop over the easier problems and get challenged by some more difficult ones, while other students may only finish the first part of the problems. Due to time constraints not all lectures are followed by exercises.
After the course please send us the exercises including answers, so that we can put those on the course homepage.
Please make sure the exercises are error-free – this has not been the case in the past and a major source of student frustration. So, please carefully check the handouts that describe the exercises, and make sure you have (know) the right answers.
See for examples:
http://glaciers.gi.alaska.edu/courses/summer-school/2010/material
http://glaciers.gi.alaska.edu/courses/summer-school/2012/material

4.) GROUP PROJECTS

Prepare 1-2 group projects. Students work in teams of 2 (or max. 3). Roughly 2 hours per day are scheduled for these projects and you are expected to be available for questions/discussion with the students during that period. The project topics should be designed to be feasible in the six half afternoons the students work on the project, i.e. the students should have a realistic chance to produce some meaningful results within the time given. The students usually spend additional (evening) time on their projects especially before the 'mini-conference'.

The projects should include 'real' data and meaningful research questions and can be thought as 'mini-theses'. The students will do some data analysis/computer-based calculations/programing, visualize the results, and discuss and interpret the results. Students will be assigned to projects several weeks prior to the course based on their preferences and background. Check with 'your' students what their background and expectations are to avoid that they are bored or overwhelmed.

You need to prepare all necessary data in advance. Projects can not rely on internet data transfer since it is very slow. Also make sure that your project 'works' prior to the course to avoid student frustration due to badly prepared projects. Overall it is quite amazing what they can produce in such a short time if the project is well-prepared. One of the projects has even lead to a publication in the Journal of Glaciology (Braithwaite et al., 2014).

We will have a mini-conference at the end where the students give 15 minute presentations about what they did.

Group projects may include some field work, however, due to the time constraints the scope can only be very limited, and therefore most projects usually do not have a field component. The glacier tongue is close but inaccessible (and debris-covered). To reach 'clean' ice one has to catch a bus (van) to Kennicott (6 km) and walk for a few km from there.

It is essential that the projects are well-prepared prior to arrival, i.e. all data and necessary software are prepared and available and the project tasks have been tested for feasibility.

See for examples:

http://glaciers.gi.alaska.edu/courses/summer-school/2010/material
http://glaciers.gi.alaska.edu/courses/summer-school/2012/material

4.) COURSE MATERIAL BINDERS

We will prepare a binder with all course material for all students. To put the binders together in time we need all your lecture notes and handouts for exercises at least 4 days prior to leaving for McCarthy.

SEE 2012 and 2010 HOMEPAGE 'COURSE MATERIAL' FOR EXAMPLES OF LECTURES/EXERCISES AND GROUP PROJECTS

http://glaciers.gi.alaska.edu/courses/summer-school/2010/material
http://glaciers.gi.alaska.edu/courses/summer-school/2012/material