

Proposal for an MSRI Summer Graduate School on <TITLE> to be held Summer <YEAR>

Organizing committee¹: List of names with affiliation

Lecturers¹: List of names with affiliation

Note: MSRI strongly favors schools that are taught by 1 or 2 lecturers, assisted by 1 or 2 teaching assistants. The available budget does not allow for further speakers. It is typical that organizers also serve as lecturers. The budget may not allow for funding of organizers who do not actively participate in the school as lecturers.

Teaching Assistants (2)¹: List of names with affiliation (can be left TBD)

Scientific Description: Describe the mathematical topics you plan to cover during the two-week long school. Include the goals of the school, as well as what the students are expected to take away from attending. Two to three pages should suffice. If the proposal is for a school that is associated with an upcoming research program at MSRI, please briefly describe how the topics covered will relate to the upcoming program. A syllabus with a two-week schedule should be included.

Carefully describe your collaboration sessions including how the students will be **actively** involved. Here is an example of a successful collaboration session plan:

The collaboration sessions will be led by the Lecturers and Teaching Assistants. The purpose of these sessions is to reinforce and deepen students' understanding of the material presented in the lectures. This will be achieved by working on problems and by discussing relevant material. Activities will include students' presentation of solutions to problems assigned, as well as students' presentation of material relevant to lectures. Through these sessions, we will be able to gain valuable feedback for future lectures, which will be adjusted if needed.

Participants: Please carefully describe how the school will be well suited for an audience of students with a wide range of abilities and knowledge, keeping in mind that students are nominated by their Director of Graduate Studies and are accepted on a first-come, first-serve basis, so their knowledge levels and backgrounds may vary significantly.

Lesson plan/Syllabus. Provide a daily breakdown of lectures and collaboration sessions.

Here is a sample daily schedule:

- 9:30-10:45. Lecture 1.
- 10:45-12:00. Problem Session lead by lecturers and teaching assistants
- 12:00-1:30. Lunch
- 1:45-3:00. Lecture 2.
- 3:00-3:30. Tea and Coffee.
- 3:30-5:00. Problem Session lead by TAs and lecturers

Prerequisites: It is important to give a detailed list of pre-requisites for the school; for example a list of a few chapters in a widely available textbook, commonly used in the first two years of graduate school, perhaps with a list of the problems from those chapters that encapsulate what the students will be expected to know how to do in advance. Ideally the list should enable a prospective student to prepare himself or herself. Lists of several whole textbooks are probably not appropriate: they are at the same time too much and too vague to be useful.

¹ Note: In our experience, when there are female mathematicians within the group of lecturers and teaching assistants, it generates a diverse group of participants. This phenomenon is consistent with a large study conducted a few years ago by the American Mathematical Society. MSRI is dedicated to the training of the next generation of researchers and to fulfill this mission it is important that our summer schools be inclusive of women and minorities. For this reason, we expect that at least one lecturer and one teaching assistant be female or member of an underrepresented group.

Math Subject Classification numbers: (Check: <http://www.ams.org/msc/msc2010.html>). We distinguish between primary and secondary classification. Please be as thorough as possible, as this will allow the videos of the lecturers to be efficiently searchable.

Key words: Provide key words for the workshop. Again, the more thorough you can be, the more likely we are to reach the widest audience.

Image and Blurb: Provide a 1-page one page description of the school aimed at the potential students, including a statement of the goal of the school: what you hope the students will learn. Its goal is to attract appropriate students to apply to the school. The page should include a high-resolution, non-copyrighted image pertinent to the subject of the summer school, with a caption.

Location Description (offsite schools only): Provide a description of the facilities where the school will be held. This should include information about lecture space, working space, and lodging/meals for the students.

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