

Proposal for repeating the 2010 Sage MAA PREP workshop

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1 Introduction

Based on the success and popularity of the PREP workshop “Sage: Using Open-Source Mathematics Software with Undergraduates,” we propose to repeat the workshop (with improvements) in summer 2011.

When initially offered, the demand for the Sage workshop in 2010 quickly exceeded our capacity. We had to close the workshop by the early application deadline (and still had to turn away five applicants and refund their money), and even after the admission was officially closed, we still had at least 2–4 additional requests for admission to the workshop. Given the continuing state of the US economy and the focus of this workshop on using free software to enhance teaching, we anticipate at least as high of demand for this workshop in 2011.

The participants generally were enthusiastic about the Sage software and the online workshop format. A number of participants went well beyond the workshop expectations (creating many more worksheets for their classes than the goal, and one even contributed code to Sage), and we were able to give significant support to a number of participants who had never used a computer system directly in the classroom before. While we have not yet initiated the follow-up activities for fall 2010, we understand from discussions that most participants plan to use Sage in some way in some course (mostly higher-level undergraduate courses), and at least one-third of the participants plan to use eventually Sage in extensive ways in many courses. Not all participants are using Sage this fall since some participants were not comfortable with having students’ work on internet servers (while that is not a requirement of using Sage, using Sage on an internet server was the way we taught the workshop). It seemed that everyone had more confidence in effectively using software and programming of any kind in their classroom and work, even though that was not an explicit goal of the workshop. Overall, we felt the 2010 workshop was a great success.

There are a number of improvements to the workshop format that we would make, based on our experience in the 2010 workshop, which we feel would make the repeat workshop even more successful in 2011. The Sage infrastructure is also rapidly improving, including standard double-clickable applications for Mac and Windows in the near future (to make Sage much easier to install on students’ and lab computers, related to the issue noted above), as well as improved capabilities in a number of areas (e.g., graphics, linear algebra, multivariable calculus, etc.), which all make Sage even more useful in the classroom. Finally, we would make some minor changes in content order.

We propose the following changes to our 2010 program, based on our experience.

2 Online video conference days

Having two 2-hour sessions each online conference day worked very well in the 2010 program. The first conference day in May was very successful in getting participants set up and exploring the software. However, the total length of the workshop was clearly too long for sustained focus for many participants (see the 2010 workshop report). Having two online days in a row also was overwhelming for some participants, particularly those without CAS experience.

In a repeat workshop in 2011, we propose the following schedule. Each online conference day consists of two 2-hour online video conference sessions in Elluminate, a format which seemed to work very well in the 2010 workshop.

- One online conference day in May. Just as in the 2010 workshop, the goal for this day is to help participants log in and explore the basics of using Sage.
- Approximately two weeks after the first conference day, three one-day online conference days, one each week for three consecutive weeks. These sessions would cover much of the same material that we covered in the three June/August conference days from the 2010 workshop.

With three one-day sessions, one week apart, there will be greater time to assimilate and apply the material from each session compared to the two-day intensive sessions in 2010. Additionally, having the intensive portion of the workshop span only three weeks gives a more focused “creative period” for participants compared to the 2010 creative period.

This new schedule creates a long period of time between the workshop and the start of the fall semester. In order to support faculty that are continuing to prepare materials in July, we will keep the mailing list active. Additionally, all of our work will be done on a collaborative Sage server, and we will encourage participants to publish their material there to share with the rest of the group. If there is sufficient interest, we can also arrange a half-day optional online session in early August where participants can share their materials with others.

The exact dates for the online video conference days are flexible. We hope to work with MAA in determining which days would be best.

3 Content

We do not anticipate many big changes in content. Participants uniformly lauded the resources the organizers created for the 2010 workshop. We plan to make small adjustments to the material (for example, to highlight new relevant developments in Sage), and also plan to polish the existing materials from the 2010 workshop significantly.

One timing change we will make is to move the discussion of pedagogy (how to use technology in the classroom) to the beginning of the main session (the second conference day). We saw in 2010 that even participants with little prior experience asked and contributed greatly to the discussion of pedagogy early in the workshop. Another timing change we will make is to address early in the sessions technical and pedagogical questions related to using a remote server compared to a campus server or lab installation, since this proved surprisingly popular.

4 Office Hours

A disappointing aspect of the 2010 workshop was the uneven response to our online “office hours” concept, in which an organizer would be available via video conference to help participants with the worksheets they were creating. Sometimes many participants attended these, but there were also many times when no participants logged in (despite reminders and repeated requests for letting us give feedback and help to participants). While the lack of focus in the long creative period certainly was a factor, we also felt that the summer-long office hour concept itself was not quite right for busy professionals in the summer.

However, live video conference sessions still helped many participants. We plan to hold optional online video conference help sessions between the second, third, and fourth conference days. We anticipate that the more concentrated nature of this workshop will help motivate attendance from those that would benefit from the more one-on-one help in these sessions.

5 Follow up

As with the 2010 workshop, we plan to follow up during the fall 2011 semester with participants’ use of Sage in their classroom via the email list. We also plan to hold a short informal meeting of available participants at the Joint Meetings in 2012 to discuss the experiences.

6 Budget Update

Our updated budget totals \$8500 (which does not include a renewed Elluminate license). We do not anticipate the organizers coming together physically, so there are no travel or housing costs budgeted. We have budgeted \$1000 for Sage server administration, which covers both summer and fall 2011.

In the 2010 workshop, we significantly underestimated the time it would take to organize and run the online workshop. We are planning on doing the 2011 workshop with two directors (Karl-Dieter Crisman and Jason Grout) instead of the three we had for 2010. Also, we plan to spend much time polishing and updating the 2010 materials. Accordingly, we have kept the total amount of directors’ stipends the same as in 2010.

Our proposed budget is thus:

- \$1000 Technical support and setup for Sage server (Summer and Fall 2011)
- \$7500 Program directors’ stipends (\$3750 each)

7 Conclusion

The Sage PREP workshop in 2010 was in great demand and was very successful. We also learned much about organizing online PREP workshops. We feel that, if given the opportunity to organize a Sage PREP workshop in 2011, the demand would remain high and the improved format would result in even greater success.