

Mathematical Association of America Minicourse Proposal Form

1. *Information for the Primary Contact Presenter:*

- (a) *Name:* Barbara Margolius
- (b) *Affiliation:* Cleveland State University, Dept. Mathematics
- (c) *Address:* **(omitted from Sample)**
- (d) *E-mail Address:* **(omitted from Sample)**
- (e) *Telephone:* **(omitted from Sample)**
- (f) *Fax:* **(omitted from Sample)**
- (g) *Date:* **(omitted from Sample)**

2. *Names and Affiliations for any Additional Presenters:*

3. *Specify the upcoming meeting for which you are applying:*

- Joint Math Meetings x MathFest

Year: 20xx

4. *Does the proposed minicourse require the participants to use a computer?*

- No x Yes

5. *Is this a request to repeat a minicourse that has already been offered or approved?*

- x No Yes

6. *Course Title:* Writing WeBWorK homework problems with embedded Flash applets

7. *Course Abstract: (Note: This is the only information prospective participants will see. Thus, it should clearly articulate the content and goals for the minicourse, the format of the course, and any necessary prerequisite knowledge. Given space limitations, the abstract should not be more than 100 words in length.)*

In this minicourse participants will learn how to write WeBWorK homework problems that incorporate Flash applets. We will give an overview of WeBWorK resources including: the National Problem Library, the MAA wiki, model courses and instructor tools. Participants will learn how to write basic WeBWorK problems that do not involve applets. Next we will demonstrate how to write problems for existing Flash applets. We will conclude with a discussion of what future resources participants would like to see developed and what resources are available for those who wish to write their own applets to embed in WeBWorK problems. Bring a laptop with wireless capability.

8. *Detailed Description: (Please include a list of topics to be covered and the approximate time spent on each topic. Also, indicate how the participants will be involved. Note: Minicourses are scheduled for two, 2-hour sessions, on two different days; e.g., Monday and Wednesday, 9:00 – 11:00.)*

	Day 1	Day 2
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0:00 – 0:30	WeBWorK basics National Problem Library, branch libraries, model courses, instructor tools	Modifying library problems with Flash applets
0:30 – 1:00	Problem authoring – six sections of a WeBWorK problem	exercises
1:00-1:30	exercises	Discussion: what would you like to see/how could these applets be better?
1:30-2:00	Using library problems with Flash applets	Where to look/how to get started writing your own Flash applets

9. *Special Logistical or Equipment Requests: (A computer projector and overhead projector will be provided; presenters are expected to bring their own laptops. Generally, rooms for minicourses are set up with tables and chairs facing the front. List any special needs for the course, in terms of equipment or furniture set-up.)*

We need internet access for the presenters and wireless internet access for the attendees. We will ask attendees to bring their own laptops with wireless connectivity. They will need tables and access to electric power outlets.

10. *Biographical Sketches: (For each presenter, provide a brief bio, including information concerning the presenter's experience related to the proposed minicourse.)*

Barbara Margolius is PI for NSF DUE-0941388 Flash applets for WeBWorK online homework system. She has taught using WeBWorK for several years. Dr. Margolius serves as Calculus Coordinator at Cleveland State University working with a team of instructors using WeBWorK with embedded Flash content to provide students with a variety of approaches to learning calculus content. Dr. Margolius has been programming using Flash for more than a decade and is presently developing math applications for the Android, iPad, iPhone and Nook platforms in addition to writing Flash applets for personal computers.

Dan Gries is a consultant on NSF DUE-0941388. He is a member of the flashandmath team at flashandmath.com. His Flash particle application (written with Barbara Kaskosz) was featured at the fall 2011 Adobe MAX conference. He teaches mathematics at the Hopkins School.

Felipe Martins is a co-PI on NSF DUE-0941388. He is a member of the mathematics faculty at Cleveland State University. He has developed a library for solving differential equations that extends the flashandmath library of actionScript classes. He has developed differential equation

applets using Flash for use in differential equations courses. Dr Martins was awarded the College of Science Jearl Walker Outstanding Teaching Award for 2010.

11. *Policy on Commercial Promotion:*

Whereas some minicourses will relate to commercially-available products, such as books or software, the promotion of such products in a minicourse is not appropriate. Participants in a successful minicourse naturally will want to know more about the materials used in the course, but the minicourse may not be used to promote any particular product.

x The presenters understand and accept this policy.

12. *Policy on Recording or Broadcasting:*

The recording or broadcasting of any MAA sponsored event, including but not limited to proceedings at sectional and national meetings, workshops, minicourses, short-courses, and colloquia, is strictly forbidden without the explicit permission of the Mathematical Association of America.

x The presenters understand and accept this policy.

This application should be submitted electronically to:

Martha Abell, Chair
MAA Committee on Minicourses
martha@georgiasouthern.edu