

The Almagest

The bi-weekly newsletter of the Department of Mathematics and Computer Science. Your trusted source for news.

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Alma College
Alma, MI 48801

Math Colloquium on February 4th

Having a research experience in mathematics can introduce a student to the exciting world of creating/discovering mathematics and proving their own results that will be true forever! One way to have such an experience is by attending a research experiences for undergraduates (REU) summer program in mathematics. There are many different kinds of these programs across the country targeting all types of students (even students finishing their first year). In this presentation, **Dr. Will Dickinson**, Associate Professor of Mathematics at GVSU, will encourage students to seek out this kind of experience and highlight the program at Grand Valley State University. He will give an overview of the structure and goals of the program and give some details about the research offerings for the 2013 summer.

*“The Summer REU
at Grand Valley State University”*

Presenter: **Dr. Will Dickinson**
Date: **Monday, February 4th**
Time: 4:00
Place: SAC 109
Refreshments at 3:50

Important Dates for Seniors

Attention all seniors! Please be aware of the following dates.

January 29: MFAT test – 1st opportunity.

February 6: MFAT test – 2nd opportunity.

March 8: Your paper is due.

March 12: Presentations begin @ 4:00 and
Senior dinner @ 5:30

Math Colloquium on February 5th

*“Flipping Out in the
21st Century Classroom”*

Presenters: **Steve Kelly and
Zach Cresswell**

Date: **Tuesday, February 5th**

Time: 6:15

Place: Dow L4

Want a Letter of Recommendation?

At this time of the year many students ask professors to write letters of recommendation. If you're planning to do this, here are a few helpful suggestions.

1. Ask professors who know you well academically. They will be most able to identify your strengths and weaknesses, to compare your abilities to those of your peers, and to defend your natural ability despite that low grade you may have received in a course.
2. Make an appointment with each professor to discuss your application. Simply leaving a note or sending an e-mail is a bit impolite and somewhat risky—they may not be read.
3. Provide your professors with a short and informal résumé. This may include a summary of your grades, goals, honors or awards, math related activities (e.g. R.E.U.'s), and any relevant work experience.
4. Give your professors ample time to write the letter. I like to have at least *two weeks* to complete the task. And don't forget to provide

them the name and address of the person to whom the letter is being sent.

Reflections of a Senior

As a senior math major at Alma College, I have taken just about every math course the department offers. In the next few issues of the *Almagest*, I'm going to reflect on the good times I've had on the second floor of SAC and offer some insightful comments about my experiences.

My first offer of insight is that every student should take MTH 391: Graph Theory. Of the 36 credits that are required to earn a math major, 12 are elective credits, meaning that you can take whichever math classes interest you most, and Graph Theory was my first elective. Graph theory was the first upper level course I took at Alma, and it was probably the reason I decided to major in math.

Graph Theory is a spring term course (another plus because you have to take eight spring term credits anyway) taught by professor Sipka. Professor Sipka's passion for the subject makes the learning environment conducive for anyone interested in math. Another plus is the book—it costs roughly \$20 new and is written in an informal way as though the author is talking to you and teaching you the subject. Graph Theory is a great course to take, counts as an upper level and a spring term course, and the presentation required in the class prepares you for the senior presentation every math major must give to graduate. *Jon Young*

Solution to Previous Problem

The **Hilbert Hotel** has an *infinite* number of rooms. It's always booked solid, yet there's always a vacancy. Whenever a new guest arrives, the manager shifts the occupant of room 1 to room 2, the occupant of room 2 to room 3, and so on. That frees up room 1 for the newcomer and accommodates everyone as well (though inconveniencing them by the move).

Now suppose *infinitely* many new guests arrive, sweaty and short-tempered. **How can they all be accommodated?**

Alex Hegedus and **Charlie Stack** both submitted correct solutions. Here's Alex's solution:

Simply have the guests in room n move to room $2n$. This will free up all of the odd numbered rooms, of which there are an infinite number.

Have all the new guests go into the newly open rooms, and everybody is happy.

Puzzle of the Bi-week

A census-taker came to my house last fall, and he asked how many children I have and how old they are.



"I have three sons, their ages are integers, and the product of their ages is 36," I answered.

"That's not enough information," responded the census-taker.

"I'd tell you the sum of their ages, but you'd still be stumped."

"I wish you'd tell me something more."

"Okay, my oldest son Ralph is left-handed."

What are the ages of my three sons?

A prize of **\$2.00** will be awarded to the **FIRST** student who submits a correct solution to Prof. Sipka.

Student assistant:	Jonathan Young
Faculty advisor:	Tim Sipka
Distribution:	Deb Smith

If you would like to submit an announcement or a short article, please send it via e-mail to Tim Sipka (sipka@alma.edu).