



Monday, October 14th

Undergrad
Student
Volunteers:

3:10 - 4:00 p.m.

- TBA

In Surge 284

“The Math Major at UCR”

Information and perspective on being a math major at UC Riverside.

Snacks and Drinks will be served!



Monday, October 21st, 3:10 - 4:00 p.m.

In Surge 284

Undergrad
Student
Volunteers:

Jason Erbele, UC Riverside

- TBA

“Applications of Categories to Diagrammatic Reasoning in Control Theory (a.k.a. Categories in Control)”

If a picture is worth a thousand words, it is not surprising that diagrams and networks appear in many contexts. Category theory provides a natural language to work with diagrams used in other disciplines via string diagrams. In Control theory, signal flow diagrams are used to gain insight into control processes.

Reinterpreting them as string diagrams, they can be viewed as representing a symmetric monoidal category of control processes.

Snacks and Drinks will be served!



Monday, October 28th, 3:10 - 4:00 p.m.

Undergrad
Student
Volunteers:

In Surge 284

- TBA

Integration Bee

The Math Club will be holding our annual integration bee this Monday at 3:10 PM in Surge 284.

Join us for a little friendly competition, including prizes, refreshments, and copious amounts of candy!



Monday, November 4th, 3:10 - 4:00 p.m.

Undergrad
Student
Volunteers:

In Surge 284

- TBA

“(Some of) the Math behind Google's Pagerank”

Suppose you have a network of nodes, some of which link to each other. Given such a network, how can you rank which nodes are "popular" (or "important", or "your favorite adjective")?

The answer involves a bit of graph theory and some linear algebra, along with some fancy footwork to deal with the issue that the networks people care about may be enormous. I will be discussing some of the mathematics involved in a Math Club talk this Monday (November 4) at 3:10 in Surge 284.

Snacks and drinks served!



Monday, November 18th, 3:10 - 4:00 p.m.

In Surge 284

Undergrad
Student
Volunteers:

- TBA

"An Introduction to Spectral Clustering"

Speaker: Kenneth Flagg

Abstract:

Given a set of data points, how can we separate them into several clusters such that points in the same cluster are very similar and points in different clusters are very dissimilar? Some intuitive approaches classify points based on their position or distance to predetermined cluster centers, but these can be inflexible. Spectral clustering uses methods from graph theory and linear algebra to extract the structure of the data from measurements of similarity between each pair of points. This finds the partition of the data which maximizes similarity within clusters while minimizing similarity between different clusters. These techniques are applied in computer vision, data mining, and other areas. I will explain the mathematics behind spectral clustering so that anyone with just a little familiarity with matrix arithmetic can understand. I will also demonstrate this exciting algorithm on both simulated and real-world data.

Snacks and drinks served!



Monday, November 25th, 3:10 - 4:00 p.m.

In Surge 284

Undergrad
Student
Volunteers:

- TBA

"Factoring via the Star Method"

Speaker: Ashley Evans, UCR

Abstract:

Given a trinomial/quadratic polynomial, how do you decide what the factors are? Perhaps more challenging: How do you explain how to find those factors in such a way that it's comprehensible to high school algebra students? We'll be hearing about one such method, and why it works.

Snacks and drinks served!