

Department of Mathematics & Statistics Newsletter

https://cas.umkc.edu/areas-of-study/mathematics-and-statistics/index.html

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## New degree programs, new school, and proving the last theorem before graduation



### From the Chair, Dr. Majid Bani-Yaghoub

As an academic advisor and the department chair, I always enjoy talking with new math majors. After greeting and a brief introduction, I often start with the question: so, why did you become a math major? Most students reply: "I enjoy doing math", "my math teacher recommended choosing math as my primary major", or "math is my favorite subject". As semesters pass by, many math majors learn about fascinating mathematical discoveries such as Fermat's Last Theorem, Fourier's theorem, Gödel's Incompleteness theorems and many more. The endless world of mathematics is intriguing and before many

students realize, it is their final semester. The students have proven many theorems and now they have to prove the last theorem: prove that you have a job after graduation! Without preparation and planning, the final semester can be very stressful. The students have mastered math topics such as continuity, countability, differentiability, and integrability, but do they know anything about employability? Can they find a job after graduation? I have seen students who have two or three job offers before graduation. Those students start boosting their resume a year before graduation. They take active roles in the UMKC Math Club, which is a sign of leadership and community engagement. They also invest in

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computational skills by learning Python, SPSS, R, and Matlab. More importantly, they apply for research experiences for undergraduate students (REUs) and several local internships. We have formulated these activities and created career paths for those who are interested in becoming a data analyst, a math teacher, or an actuary (see pages 14-16 for more details). Students can also build their own career path and we can certainly help them. In addition, there are two fast-track programs for those interested to obtain a master's

degree in mathematics or statistics in a much shorter time.

In addition to career paths, I am pleased to announce that the department has created new degree programs that can strongly benefit all UMKC students including math majors. Starting Fall 2022, the department will offer a new minor in Data Analytics, a new minor in Statistics and a Bachelor of Applied Science degree with emphasis in Data Analytics (see pages 11-12 for more details). These degree programs are designed for those who would like to find a career in statistics, data analytics or related fields. The other exciting news relates to the new School of Science and Engineering. Starting Fall 2022, the Math & Stat department will be part of the new school and will have stronger collaborations in all fields of science and engineering, particularly computer science. With some curriculum changes, we anticipate that the dual major in mathematics and computer science will be very appealing to prospective and current students. Mathematics and Computer Science students have the advantage of being proficient in two 21<sup>st</sup> century fields that are in high demand. This can help them choose a career that they enjoy the most.

We are committed to provide a positive and pleasant learning experience for all UMKC students. The Math and Stat faculty and staff welcome any student who would like to learn mathematics or statistics. Students don't have to be excellent in mathematics to become a math major. We invite all students to explore the world of mathematics and learn the wonderful history behind math formulas. Please feel free to ask us any questions. We love to hear from you!

# Greetings from the President of the Math & Stat Graduate Student Organization

Hello Math Roos!

My name is **Bryan Har- ris.** I'm a graduate student in the math department, and the President of the Math &
Stat Graduate Student
Organization (MSGSO).

It's so exciting to see everyone in person again! Things are slowly returning to normal at UMKC and within the math department, and I could not be more



thrilled. As a student studying mathematics, you have a lot of opportunities both in school, and for your job prospects. Make every day count; get involved, meet likeminded students, and

get your name out there. Contact me at: brhz8b@umsystem.edu

### **Bryan Harris**

Graduate Teaching Assistant & Ph.D. student President of the UMKC MSGSO

## Math major Nina Han receives another internship and finds a job right after her graduation

In summer 2020, math major **Nina Han** obtained an internship as a data analyst at YRC Freight. You can read about her first internship experience in the previous edition of the RooMath Newsletter. Nina was able to obtain another internship in Fall 2020 and after graduation she was hired by a major insurance company as an Actuarial Analyst. In addition to majoring in mathematics and statistics, Nina obtained a minor in

Actuarial Science, which helped her pass the first two actuarial exams and become qualified as an actuary.

As you will read below, Nina shares her excellent experiences with current math majors. We highly encourage math and stat students to apply for internships a year before their graduation.



## In an extension of my Summer internship — by Nina Han

I was on a project building a model that would identify profitable freight pricing programs and give insights on new strategies on programs that were not as profitable. This tool provided pricing analysts the year over year trend and the profitability comparison on a per-day basis between different pricing programs. It also provided information at the 'lane level' (state to state) so pricing managers can implement new strategies for different routes. I enjoyed building this tool and my SQL skills improved to another level as I used it daily.

### Transitioning to an actuarial analyst

From September to November is a peak hiring season for entrylevel analysts. I updated my resume and started to apply in August after I passed Exam FM/2. Some companies conducted HR interviews through an online interview platform, and I had to record my answers as questions popped up on the screen. Making videos as a class project in MATH 420 was helpful and explaining/writing out proofs in MATH 301/402 prepared me to explain mathematical concepts to people from different backgrounds. One company had me complete an analytical test within 2 hours where it included some actuarial concepts like pricing and reserving. Another company included a coding challenge, using Python, in the initial process, and I had to explain how I solved the coding challenge.

Here are some of the questions I received from HR:

- 1. Tell me about yourself and explain why you want to work for this company.
- 2. What was your greatest achievement and why is it important to you?
- 3. Tell me about a time you had a hard time at work because of relations with coworkers.
- 4. What makes you think you are a good fit for this position?
- 5. Give an example when you had to explain a complex idea to someone and how did you make sure they understood.
- 6. What do you do at work?

The next step is with a hiring manager. Some companies included technical questions in this step, others included them at the final interview. Final interviews were typically 4 hours or so. One final interview was with 7 different people (6 of them were actuaries at different levels of job functions), and the others with 6. They were intense and exhausting. I had to introduce myself 4-5 times and ask questions to different people to show my interest.

Here are a few questions I had from hiring managers and final panels:

- 1. Tell me how you manage a tight schedule.
- 2. Tell me about a time when things went against your expectation.
- 3. Tell me about a time you had a difficult time working in a group.
- 4. Tell me briefly about the technical skills you listed in your resume. How would you rate your technical skills on a scale?
- 5. What is your exam strategy?
- 6. How would you tell what actuaries do to someone who doesn't know what we do?
- 7. How would you describe what Python/R/SQL(my choice) does to someone who does not know about it?
- 8. How would you describe what machine learning is to someone who does not know about it?
- 9. Have you observed someone having excellent communication skills?

- 10. Have you documented anything and how did you do it? What are your 5-year goals?
- 11. We are pricing a charity golf tournament event. What factors would you consider in pricing?
- 12. What would you do if you were asked to price homeowners policies only based on property values?
- 13. Explain how to use VLOOKUP/INDEX/SUMIFS function in Excel
- 14. Looking at this SQL query, how many columns will it create? What should be included in GROUP BY? If there is an error, what is it and how should you correct it?

I accepted an offer from a property/casualty insurer in Kansas and started working in November. I am in the Risk Management and Analytics team and assigned to work on pricing, reserving, and research projects. I've been involved in calculating new base rates in two different states and updating the reserving framework. I am also doing a variance analysis for different lines of business where I learn and apply actuarial statistical methods. It is fun to see actuarial methods I learned through the CAS program applied in real-world work (in pricing and reserving). My company encourages and supports actuarial analysts to study and pass exams. I passed IFM/3F in December. I will be joining other actuaries for the next exam. I am glad I chose this profession where I use mathematical and statistical skills and challenges every day.

## Statistics Internship at the Federal Reserve Bank of Kansas City

**Thao Tran** graduated with a master's degree in statistics in spring 2021. She describes herself as "a team player, a leader, and a speaker, who is not afraid of challenges" She constantly looks for new opportunities in work and research to apply her math and stat knowledge and technical skills to solve real world problems. In spring 2021, Thao obtained an internship at the Federal Reserve Bank of Kansas City. Below is a short interview with her, which can motivate you to apply for internships.

1. You obtained an internship this year and worked full time during the summer. Could you tell us how you obtained the internship and how many other internships did you apply for?

I met the recruiter at the ASA Women in Statistics and Data Science conference and we had a great conversation about past work experiences and research skills. At the time, I also applied for one other internship.

2. Did you have any help from UMKC career services and other resources to create and revise your resume?

I did not but I did get reviews from peers and professors.

3. What kind of questions can we expect in an internship interview?

Some of the questions I had at my interview are:

What types of data have you worked with?

What level of coding in R, Python, Matlab, or Stata do you have experiences with?

Tell me about a time when you ran into something you didn't know or understand but had to accomplish.

### 4) Name a few specific skills needed for a math or stat internship.

Coding and data experiences are the most important aspect of a candidate portfolio in my personal exposure.

## 5) Tell us about the company that you worked for and its clients?

The company I worked for works in the public's interest by supporting economic and financial stability with nearly 2,000 employees. It fosters the stability, integrity and efficiency of the nation's monetary, financial and payments systems to promote a stable, healthy economy.

## 6) What are the career expectations and characteristics of your internship?

It is a part-time position that took place in the spring semester.

## 7) Where and how did you use mathematics or statistics in your internship?

In the position, I'm constantly using statistical analysis and concepts. For example, I use summary statistics to quickly grasp what is going on in the data, construct time series and seasonally adjusted to observe the underlying trend, conduct regression analysis to study the relationship between employment and job polarization.

## 8) What math or stat skill would you like to learn to be better at your internship?

I would like to learn to code in a more transparent and productive manner to significantly reduce the run time when dealing with large data.

## 9) Tell us about your supervisors and their roles in training and preparing you for a future career.

My supervisor is a PhD economist in labor and heath economics. She provided great support in academic career orientation by giving me advice on graduate applications and building a research profile.

### 10) Do you consider the same company and job as a future career?

Yes, I certainly do.

## 11) What are the most satisfying and most frustrating parts of your job as an intern?

The most satisfying part of the job is to contribute analysis to the process of policy decision making and the most frustrating part of the job is bureaucratic clearance but it also helps me understand more about data privacy issues.



## 12) In what ways, have you benefited from having this experience?

Not only have I gained technical skills and been exposed to how data and statistics are implemented in a central banking system setting but I have also learned more about business etiquette and networking that will support me in my future career.

## 13) What advice would you give to other Math and Stat majors who will serve as an intern?

As an intern, I would highly recommend talking to as many people as possible during their time with the company to learn about what people do, gain advice on professional development, and build future connections.

### 14) Tell us about your math and stat degree.

I earned my BBA in Mathematics with Statistics emphasis, Finance, and Economics from the University of Wisconsin-Eau Claire and I'm currently finishing a MS in Statistics at UMKC.

### 15) Why did you choose mathematics and statistics?

I purely enjoy learning more about mathematics and statistics and they are applied everywhere.

## 16) Who or what inspired you to become a Stat graduate student?

I was internally motivated.

### 17) If you were not a Math and Stat major, you would be ...?

I would be a psychologist or an economist.

### 18) Tell us about the Math and Stat professors at UMKC.

The Math and Stat professors at UMKC have provided incredible support to students academically and professionally. I'm sincerely grateful for their teaching and guidance during my time at UMKC.

### 19) Where do you see yourself in the next 5 years?

I see myself being a project manager working with data in a policy-related institution.

### 20) What do you enjoy doing in your spare time?

I enjoy cooking, exploring new eats in town, traveling within my budget, and hanging out with my friends, including my cat.

## Congratulations to Recent Math and Stat Graduates

The Department of Mathematics and Statistics congratulates the following recent graduates with a degree in mathematics or statistics. In Academic Year 2020-2021 a total of 83 Math & Stat degrees were awarded including 19 graduate degrees.

### Fall 2021

Mostafa Badroddin Mathematics Co-iPHD Brandon Oakley Mathematics Co-iPHD McCov William Parker Morgan Mathematics Co-iPHD Matthias Mathematics Co-iPHD **Ziefuss** Karrar Kadhim Abbas Mathematics iPhD Arash Arimand Mathematics MS Attard **Mathematics & Statistics BS** Gregory M Grace Ellen Reesman **Mathematics & Statistics BS** Lina Hayyeh Mathematics & Statistics BA Jennifer Rosenblatt **Mathematics & Statistics BS** Alex DeWitt Smith Mathematics & Statistics BS Jeremiah Bradhurst **Mathematics & Statistics BS Mathematics & Statistics BS** Garam Han Javier S **Jones Mathematics & Statistics BS** Matthew K Mcguirk **Mathematics & Statistics BS** John P Murphy Mathematics & Statistics BS Xavien Walker Mathematics & Statistics BS Samuel Charles Feye **Mathematics Minor** Nathan Gawith **Mathematics Minor** Ann Na Glas **Mathematics Minor** Brieanna Hawthorne-Crosby **Mathematics Minor** Duong Thuy Hoang **Mathematics Minor** Duyen Bao Huynh **Mathematics Minor** David Johnson **Mathematics Minor** Deborah Kirchner **Mathematics Minor** Sung Ho Lee Mathematics Minor **Mathematics Minor** Raymond L Rennock **Mathematics Minor** BrianJ Roden

Caleb Alan Van Tassel Gabriella Judyth Willis

Mathematics Minor
Mathematics Minor

### Spring/Summer 2021

Shimin Tang Mathematics Co-iPHD Sourov Roy Mathematics Co-iPHD Dewan F Noor Mathematics Co-iPHD	
Dewan F Noor Mathematics Co-iPHD	
Abu Hanif Mathematics Co-iPHD	
A N M W. Azad Mathematics Co-iPHD	
Matthew M. McCoy Mathematics iPhD	
Saeeda Irfan Mathematics MS	
Dilek Soysal Mathematics MS	
Nathan J Underwood Statistics MS	
Zhiheng Zhang Statistics MS	
Caston A Stack Statistics MS	
Thao Phuong Tran Statistics MS	
Julia T Hernandez Mathematics & Statistics	s BA
Keith Robert Slaughter Mathematics & Statistics	ВА
Jacob R Salas Mathematics & Statistics	s BS
Sindhu Balakumar Mathematics & Statistics	s BS
Loubna Ouaret Mathematics & Statistics	BS
Jacob Williams Mathematics & Statistics	s BS
Alex Schaeffer Mathematics & Statistics	s BS
Dominic Luis Guillen Mathematics & Statistics	BS
Alex James DeGeorge Mathematics Minor	
Torsten P Whetsell Mathematics Minor	
Michael Black Mathematics Minor	
Ruby A Rios Mathematics Minor	
Jeremiah Barnes Mathematics Minor	
Jesse L Mcdaniel Mathematics Minor	
Cori D. Mroz Mathematics Minor	
William Keke Mathematics Minor	
Maria F. Franco Mathematics Minor	
Shelby Mohar Mathematics Minor	
Matthew R Combs Mathematics Minor	
Tuong Nhut Le Mathematics Minor	
Muhammad Omer Khan Mathematics Minor	
Daylan R Quinn Mathematics Minor	
Jacob T Fuchs Mathematics Minor	
Nathan Woodard Mathematics Minor	
Gregory M Smith Mathematics Minor	
Elise C Eastin Mathematics Minor	
Khalid A Algattan Mathematics Minor	
Jacob S Meinershagen Mathematics Minor	
Kole T Keeney Mathematics Minor	
Imran S Khawaja Mathematics Minor	
Madison R Barker Mathematics Minor	
Ali F Choudhry Mathematics Minor	
,	
Byungchan Kang Mathematics Minor	
Byungchan Kang Mathematics Minor Jingtang Ma Mathematics Minor	
Byungchan Kang Mathematics Minor Jingtang Ma Mathematics Minor	

Amar Kaur Khalsa Cheyma Abdelkebir Carolyn E Ross

Mathematics Minor Mathematics Minor Mathematics Minor

## Congratulations to recipients of 2021-2022 Jedel Scholarships

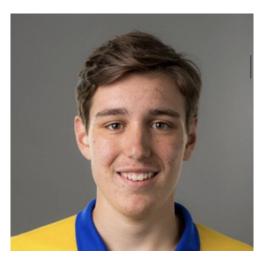
Students majoring in Mathematics applied for Jedel Scholarships, which provide \$2,000 per semester, for a total of \$4,000. For academic year 2021-2022, math majors **Seth Kacich** and **Zack Bright** are each the recipient of a Jedel Scholarship.

Congratulations to Seth and Zack!

Here is what Seth Kacich says:

"I am currently a junior at UMKC double majoring in Accounting and Mathematics and Statistics. I plan on graduating from UMKC in the spring of 2023. I really enjoy the math classes offered at UMKC, and I find that my favorite classes are Statistics courses. For me, the UMKC math department has created a great and positive environment, which allows me to focus on excelling in my classes."

"Ever since I was a kid, I have really enjoyed all kinds of sports. Statistics are beginning to play a major part in sports, especially today, so I would like to use my knowledge in statistics and apply it to sports. Working with sports and statistics, two of my passions, would be a dream come true for me. I be-



lieve that with my knowledge in sports and my continued learning of Math and Statistics at UMKC, I will be able achieve this in my future."

Here is what **Zack Bright** says:

"I have always loved puzzles. When I was twelve I learned how to solve the Rubik's Cube. Pretty soon I was buying new cubes of all shapes and sizes and learning how to solve them. For the next ten years I competed in "Speedcubing", practicing every day to solve my cubes faster and more efficiently. I gained two important traits from this: A love for finding the solution, and a sense that the only person I'm really competing against is my-self."

"When I went back to school after having taken some time away, I didn't know exactly what I wanted to do but I started with a Math class. In College Algebra my professor would constantly speak about how much fun the students would have in his Calculus class, and would always jokingly suggest we should meet him there eventually. Well I took him seriously, and made



it my goal to take Calculus 1. It took some time but I did get there, and I realized something magical. The problems we were solving felt just like the twisty puzzles I had always loved."

"Through the next two Calculus courses, I realized my love for solving puzzles was really a love for Math. I applied to UMKC's Math and Stats program with the biggest smile on my face because now I knew what I wanted to do. I have been spending my summer peeking at some of the concepts that I will be studying this fall. I am extremely excited to start the next step of my Mathematical journey here and can't wait to get my hands on the puzzles that come next."

### More Recent Student News

**Kylie Brous** wrote an expository paper for Math 464 WI, titled "The Mystery of Negative and Imaginary Logarithms", based on Euler's paper E807, published in *Lucerna* in early 2021, p. 121, see <a href="here">here</a>. Euler's accessible narrative of his work, is filled with candid remarks like "Notice, then, that we encounter quite palpable contradictions, whichever way we turn."

**Laura Behm** published her expository paper written for Math 464 WI, titled "**Conversational Physics**", about Galileo's work,



in the **Sosland Journal** in September 2021, under Advanced Level, Runners-up, see  $\underline{\text{here}}$ .

Richard Schneider published his expository paper written for Math 464 WI, titled "Irrational Philosophy? Kronecker's Constructive Philosophy and Finding the Real Roots of a Polynomial", in the Rose-Hulman Undergraduate Mathematics Journal in July 2021, see <a href="here">here</a>.

**Dominic Guillen's** expository paper for Math 464 WI, titled "A **Simpler Annuity**", based on de Moivre's work, will be published in *Lucerna* in early 2022.



All Math 464 WI papers mentioned above were supervised by **Dr. Richard Delaware**.

Graduate **Shelby Bell-Glenn**, now a graduate student at KU Medical Center in Biostatistics, on June 24, 2021 wrote: "my comprehensive exam is scheduled for this August. If all goes well, it will just be dissertation work for me after that! I've been working with Devin Koestler on statistical genomics research the last couple of years, and I've found I really like this field! As of now, I plan to do my dissertation on this subject."

Graduate **Breanne Dustin** shared on July 19 and Oct. 1, 2021: "(July) The past 18 months have been...interesting? Tyler (her

husband) and I were both able to keep our jobs, so we are incredibly grateful for that... I am getting ready to start my third year as full-time faculty at MCC-Longview. The pandemic hit March of my first year, and I have been teaching over Zoom since then. I am scheduled to teach on campus in the fall, but I'm preparing for anything! Things are going well with MCC - I love my job and the students. The connections keep me going. That being said, it has been extremely challenging to teach virtually - I took the summer off to breathe... I got COVID on our vacation! I was vaccinated in April and I still got it. It was fairly mild - fever for one day and mild exhaustion. I also lost my sense of taste and smell and, at this point, I have only regained about 30% of it. (October) It has been a really hard semester. My load is currently at 23 hours, 3 of those hours include serv-



ing as the Mathematics Coordinator for MCC-Online. I like it, but there is a lot to learn! I'm back on campus for three classes and I have three classes with the online college. We didn't really have the choice - only 15% of our classes could be taught virtually. I do have a virtual evening course in the Spring (Precalc) so that will be nice."

Graduate **Daiwa (Emmert) McGuire**, shared on September 20, 2021: "Once COVID shut down our (high) school (Mount Vernon, MO) in March 2020, we didn't end up finishing the school year online because we didn't have the resources to do so. Then in the fall we came back, masked up, and kept our distance. I also had one algebra 1 class online that I had to teach. Let's just say that was the worst experience that I've ever had. None of my students would do anything, and all of the extra

hours I put into making it as meaningful as possible was a waste. This year we are back as if things are "normal". I'm just waiting for even more craziness to happen. This school year has me full of new emotions... I enjoy teaching, but having the lower level algebra 1 classes has really drained me of all my energy. On the flip side, my geometry students are being introduced to two column proofs (which I like the organization, but man I do miss the detail and structure of a formal proof). On the first day, we focused on the logic and reasoning instead of all of the details of the two-columns. Anyway, we talked about odd and even numbers and even tried to show some more paragraph looking proofs over what happens when we add even and even/odd and odd, etc. Some of my students were really sharp and attached to the x = 2k where k is an integer like glue. Others..... had no idea what was going on. Made me think back to my first encounter with the notation...I hope this school year brings you and your students in person encounters and meaningful class discussions that were missed from the last few years."

Graduate **Rachel Talmadge**, shared on September 1, 2021: "I left my job at the accounting firm back in February of this year, and I started working for FEMA Region VII as a Program Analyst in March. It has been an amazing experience so far with work that feels meaningful, coworkers who feel like real teammates, and a workload that actually allows for some degree of balance in life. In my main role, I work on a team in what is called the Closeout Section of Public Assistance. Essentially, after a disas-



ter has occurred, and the work has been done to repair, re

store, and possibly mitigate the damages, we work to close out the project and get the applicants (states, counties, cities, towns, non-profits, etc.) reimbursement for the expenses incurred. So my role generally involves validating that the costs being claimed for reimbursement were calculated correctly, protocols were followed as required, all needed documentation was included, etc. In a way, I'm kind of like a mini auditor. Outside of my main role, I will also be deployed to disasters at some point and as needed, though I have yet to do so. Everyone at FEMA gets deployed at some point during the year, though some roles are almost entirely in the field, while others (like mine) are mostly in office (or in home, since right now we are almost entirely virtual). So we'll see what that experience is like, when it happens!"

Graduate **Michele Canon Brentano**, shared on Facebook on June 25, 2021 the announcement that the company she works for, **Origin Materials**, whose mission is to bring the world to net zero emissions through carbon negative materials, went public on Nasdaq: "What a journey this has been! I'm so grateful to be part of such an incredible team—The resilience, perseverance and community within this team is what has gotten us here and I'm beyond excited for this next chapter."

Mathematics and Physics major **Grace Reesman**, after graduating this semester, will attend Northwestern University to study for a Ph.D. in Physics!



From mathematics student **Sean McElwain**, August 26 and 27, 2021:

### **Student Praise for a Math Instructor**

"I intended to send this email at the end of the last semester, but I neglected to do so because I was busy with summer courses. I gave **Dr. Bill Morgan** [department adjunct instructor, and Metropolitan Community College: Maple Woods mathematics professor] a positive review at the end of the [spring 2021] semester, but I also wanted to directly reach out to you to let you know that I consider his instruction to

be substantially higher quality than any other mathematics instructor in the course of my academic career. And the fact that I had him as a professor has changed my perspective and interest level in learning mathematics.

Throughout all of my mathematics courses I have experienced subpar instruction and in my courses I basically resolved to teach myself because I did not gain much from the lecture other than attendance credit. As a result of that, and the fact that I am a non-traditional student (I am pursuing a second bachelor's degree after completing my law degree [six years ago in 2015]), I had numerous gaps in my understanding of mathematics. This ranged from limited understanding of basic manipulation of equations, notation rules, or a limited understanding of subjects like trigonometry. As a consequence, Calculus II was a substantial challenge for me throughout the semester...

I credit [Dr. Morgan's] instruction and guidance entirely to my success. I do not think that I would have gained anywhere near the knowledge that I gained with any of my other prior mathematics instructors... he is one of your faculty members that entirely understands how to effectively teach mathematics... his recorded lecture format was really absolutely great for me to comprehend the material and apply it to problems. I think that he is very good at anticipating what a student may have questions on, or where we may need review of a prior concept and incorporating that into the lecture."

**Ryann McIntosh** (BS Mathematics and Statistics 2015), after earning an M.S. in Biostatistics at KU and several years working for Sprint, is now teaching both Statistics and Mathematics for us. See her profile <a href="here">here</a>.



## Dr. Matthew McCoy joins the Department as Math Faculty

**Dr. Matthew McCoy** joined UMKC in Fall 2021 after receiving his Ph.D. from UMKC in the area of computational mathematics with applications to numerical computation of residual diffusivity in regimes with small molecular diffusivity. Dr. McCoy has research interests in numerical solutions to singularly perturbed differential equations, adaptive mesh methods, finite element methods, and applications to fluid dynamics.



Dr. McCoy is an excellent addition to our department and will do a superb job as a faculty member. He is teaching Ordinary Differential Equations and Calculus III this semester.

## Welcome back Prof. Yong Zeng!

**Professor Yong Zeng** has returned to campus this fall from serving the National Science Foundation as a Program Director. His service at NSF as a rotator from the University of Missouri - Kansas City increased the visibility of UMKC (including our department) and the UM System.



## 7th Annual UMKC Math and Stat Research Day was held virtually with 18 speakers from 10 different universities

For this year, on April 23, there were 18 speakers from different universities including Washington State University, Iowa State University, University of Kansas, University of Missouri-Kansas City, and University of Leicester, UK. The main theme of the research day was "Mathematical & Statistical Models of COVID-19 Pandemic" with a special focus on magnitude, demographics, and dynamics of COVID-19 in Kansas City.

## Below is the list of speakers and the titles of their talks: Theme 1: General Math & Stat Research

Exploring the Dynamics of Virulent and Avirulent Aphids: A Case for a "Within Plant" Refuge, **Aniket Banerjee**, Department of Mathematics, Iowa State University, aniketb@iastate.edu

Dynamics of a Female Harvesting Male Stocking model with weak Allee effects. **Eric Takyi**, Department of Mathematics, lowa State University, takyiem@iastate.edu

A Novel Mathematical Model to Explain the Changing Language Dynamics in India, **Kushani DeSilva**, Department of Mathematics, Iowa State University, kdesilva@iastate.edu

Homoskew-Derivations with Commutativity of Rings **Mehsin Jabel Atteya**, School of Mathematics & Actuarial Science, University of Leicester, UK. Email: jaas2@leicester.ac.uk

### Theme 2: COVID-19 in Kansas City

Seasonal Changes in Kansas City 311 Service Requests William Ford, UMKC Math & Stat Department, wandrewford@mail.umkc.edu

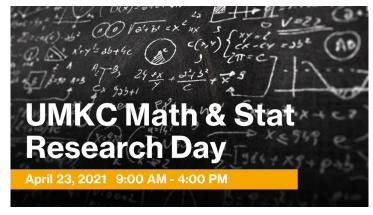
Changes in Kansas City 311 service requests due to COVID-19 Pandemic **Thao Tran**, UMKC Math & Stat Department thao.tran@mail.umkc.edu

Analyzing Intercorrelated factors among Kansas City neighborhoods during the COVID-19 Pandemic **Braeden Vaughn**, UMKC Math & Stat Department, bv2my@mail.umkc.edu

A Prospective Spaciotemporal Analysis to Detect Clusters of COVID-19 in Kansas City, MO **Hadeel Alqadi**, UMKC Math & Stat Department, hadz6@mail.umkc.edu

Did the COVID-19 Pandemic Increase Math Anxiety in College Students? **Dilek Soysal**, UMKC Math & Stat Department, dswbz@mail.umkc.edu

Statistical Analysis of Kansas City COVID-19 Data with Respect to Race, Ethnicity, Age, and Gender **Sindhu Balakumar**, UMKC Math & Stat Department, sbmbg@mail.umkc.edu



Time Series Analysis of COVID-19 Cases in Kansas City, Missouri **Siqi Wu**, UMKC Math & Stat Department, w4fc@mail.umkc.edu

Evaluating the spatial clusters of COVID-19 with respect to demographic factors in Kansas City, MO **Hadeel Alqadi**, UMKC Math & Stat Department, hadz6@mail.umkc.edu

### Theme 3: COVID-19 Pandemic

Google Health Trends and COVID-19 Case Incidence in Africa: A Useful Surveillance Tool? **Alex Fulk**, Department of Ecology & Evolutionary Biology, University of Kansas, alxjfulk@gmail.com

Exploring the Role of Superspreading Events in SARS-CoV-2 Outbreaks **Jordan Bramble**, Department of Mathematics, University of Kansas missylink@ku.edu

Covid-19: The Role of Changing Behavior, Public Sentiments, and Risk Perception on Disease Transmission **Folashade Agusto**, Department of Ecology & Evolutionary Biology, University of Kansas, fbagusto@ku.edu

The Kansas Mask Experiment: The Impact of Mask Compliance in Kansas Counties on the Spread of COVID-19 **Stephen Gardner**, UMKC Math & Stat Department, ssgzt2@mail.umkc.edu

Automatic Detection of COVID-19 Using Data Extracted from Chest X-ray Images **Grace Reesman**, UMKC Math & Stat Department graceklausen@mail.umkc.edu

Deterministic and Stochastic Models for the Epidemic Dynamics of COVID-19 in Wuhan, China **Jordan Culp**, Math & Stat Department, Washington State University, jordan.culp@wsu.edu

### Math & Stat Fast Track, programs

The mathematics and statistics fast track programs offer students an opportunity to meet the full requirements of the BS and MS in Mathematics and Statistics in a shorter time period than the separate degree programs.

https://cas.umkc.edu/areas-of-study/mathematics-andstatistics/undergraduate-programs.html

# The Math and Stat Department will host the MAA Missouri Section Meeting in Spring 2022



### MATHEMATICAL ASSOCIATION OF AMERICA

The Math & Stat Department will host the Missouri Section Meeting of Mathematical Association of America (MAA) in April, 2022. As of now, the meeting is planned to be in person. MAA is closely monitoring COVID-19 and our sympathies go out to all those who have been affected. Since there is no way to predict when the impact of the virus will subside, based on the latest information from the CDC, NIH, and WHO, we will follow state and CDC guidelines regarding this event.

# The Math and Stat Department is hiring a new professor in applied mathematics

The Department of Mathematics and Statistics at the University of Missouri-Kansas City invites applications for a **tenure-track position at the rank of Assistant Professor.** The department seeks a dynamic colleague committed to fostering excellence in research, teaching, and service. An ideal candidate is expected to have a research agenda focusing on Mathematical Methods in Data Science, seek external funding, and provide effective teaching at the undergraduate and graduate level. We especially encourage applications from candidates from marginalized or underserved communities. Research areas may include Applied Partial Differential Equations, Applied Topology, Applied Harmonic Analysis, Optimization and Stochastic Control, Numerical Analysis, and other emerging areas, with applications in Data Science.

We expect new faculty to be successful in scholarly activities through publications, grant writing, and collaboration with the faculty in our department, college, and university. Primary teaching responsibilities will be teaching two mathematics/

data science courses per semester at different levels. Other duties may include service at the department, college, and university level as well as the service to the professional community.

### **Minimum Qualifications**

A Ph.D. in Applied Mathematics or a closely related field (or expected to graduate with a Ph.D. before August 2022) and successful teaching experience at the college level.

### **Preferred Qualifications**

We are interested in applicants who have an established record of research in applied and computational mathematics, show potential to build interdisciplinary and industry connections through their research, and are qualified to teach graduate and undergraduate classes in the areas of applied mathematics and data science.

### **Full Time/Part Time**

Full-time, tenure-track, benefit eligible, 9-month faculty appointment to begin in Fall of 2022.

Click here to apply

# The Math and Stat Department will offer the Bachelor of Applied Science with emphasis in Data Analytics — starting Fall 2022.

The Bachelor of Applied Science helps those with Associates Degrees advance their skills and job prospects

The University of Missouri System Board of Curators approved the proposed degree unanimously in August.

The UMKC College of Arts and Sciences announced this new bachelor's degree aimed at local transfer students. The Bachelor of Applied Science (B.A.S.) will help those with an Associate of Applied Science (A.A.S.) transfer their career-specific technical degree to UMKC.

"The number one question I get when working with these students is, 'How are my credits going to transfer?'" Christiana Rangel, manager of requirement and outreach for the College of Arts and Sciences, said.

That's the problem for roughly 20% of the area's community college graduates – their Associates of Applied Science would not transfer, even as electives. As a result, many transfer students have had to completely start over on a four-year degree. UMKC leadership has designed the new B.A.S. degree to in

## Sharpen Your Skills to Become a Data Analyst

## **UMKC Courses** in Data Analytics

- · Intro to Data Visualization
- Intro to Diagnostic Analytics
- Intro to Predictive Analytics
- · Graph Theory with Applications
- Business Analytics I & II
- · Machine Learning & Statistical Modeling
- Data Visualization & Data Wrangling
- · Data-Driven Modeling
- Python Deep Learning

crease university enrollment by presenting a solution for transfer students who would not typically come to UMKC.

College of Arts and Sciences Associate Dean Beth Vonnahme proposed the idea for the degree to the chancellor as a feature of the UMKC Forward Initiative. Since then, Vonnahme has helped develop curriculum and work the program through the approval track, where it is currently on its last step with the Missouri Department of Higher Education.

The new bachelor's degree will offer five emphases in highdemand fields: business and organizational leadership, data analytics, digital humanities, digital media and health services management. However, the B.A.S. does require an A.A.S. For students who do not have an A.A.S., many course structures are mirrored in minors.

Dr. Majid Bani-Yaghoub, the mathematics and statistics department chair, said he was excited about the development of the data analytics emphasis and minor. The curriculum involves courses from the Bloch School of Business and the School of Computing and Engineering to provide multiple levels of understanding.

"The Bloch School has been very active in gearing courses for business analytics," said Bani-Yaghoub. He also said that UMKC is one of very few universities that have such a broad range of analytics classes, despite data analytics having a large job market. While the B.A.S. is on the final step of approval, the digital humanities minor is still under development with the hope that it will be available beginning in the fall 2022 semester.



**Math & Stat Department** 

UMKC's digital humanities courses are also interdisciplinary and are present in the anthropology, art, art history, communication studies, English, history and sociology departments. Digital humanities programs combine humanities and technical skills, which are highly transferable.

UMKC published preliminary information about the B.A.S. program last week, and Rangel has already heard from several interested people. This degree will be a resource for the 20% of community college graduates desiring to pursue higher-level degrees at UMKC.

"We are looking for a way to reach this target audience in a way that is meaningful for them," Vonnahme said.

The Bachelor of Applied Science degree is designed for students who have completed an Associate in Applied Science degree. Beth Vonnahme, Ph.D., associate dean of the College of Arts

## Apply for Math & Stat internships

- There are several internship opportunities available in the Kansas City metropolitan area such as offered by Sprint, Cerner, Lockton, & H&R Block. There are also internships listed by the **American Mathematical Society**
- Deadlines for summer programs usually occur during the previous Fall or Winter. There are also many applications due January- March of each year.

and Science, said those associate degree credits do not easily transfer to many four-year degree programs, which means students wishing to return to higher education for career advancement must often start near the beginning of a four-year program.

"The new degree program allows students to use up to 60 hours of their associate degree credits toward the new bachelor's degree, enabling them to enter the workforce with a bachelor's degree in two years. This saves them valuable time and financial resources," Vonnahme said.

The new degree curriculum will combine core skills employers are looking for in future employees, such as critical thinking, communications, ethics, teamwork and complex problemsolving skills, with expertise in high-demand fields including business, organizational leadership, healthcare management, data analytics, digital media and digital humanities.

"This degree program will grow the pool of potential applicants with the technical experience and key competencies employers need for their workforce," Vonnahme said. "This innovative degree program presents a major opportunity to recruit new students, provides a high-quality educational experience to students who are currently underserved and equips the region's workforce with in-demand education and skills."

# The Math and Stat Department will offer a minor degree in Data Analytics — starting Fall 2022.

The UMKC Math & Stat Department will offer a Minor Program in Data Analytics starting Fall 2022. Students will enhance their employment prospects by acquiring data analytic skills. This program is to provide an entry into data analytics for those who desire to engage in more quantitative ways with their major, particularly in social sciences such as criminology, criminal justice, economics, political science, and in sciences such as biology and psychology.

# The Math and Stat Department will offer a minor degree in Statistics — starting Fall 2022.

The Statistics minor will provide you with a general introduction to statistical theory, followed by further training in theoretical or applied statistics through a broad selection of elective

classes. Through this minor, you will become able to participate in statistical analysis in the business or engineering world, and you will greatly enhance your preparedness for graduate study in fields involving quantitative analysis. The Statistics minor is an excellent counterpart to any major other than Math & Stat.

## Differences between the Minors in Data Analytics & Statistics

### The Minor in Statistics

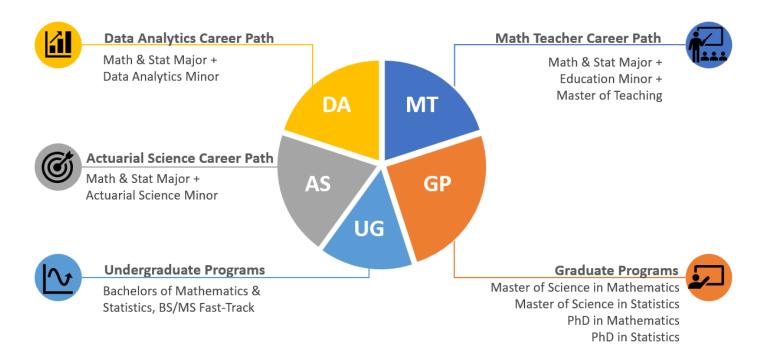
- 1. is mainly designed for STEM majors and requires rigorous math (e.g. Calculus I and II) and stat courses (Math Stat I & II).
- 2. provides a strong background in probability and statistics for STEM majors and increases their professional skills demanded by the current STEM job market.
- 3. is designed to be a popular minor for STEM majors because most of them will need only 2-3 additional courses to obtain this minor.
- 4. can significantly increase the likelihood of obtaining engineering jobs that require a strong background in statistics.

### The Minor in Data Analytics

- 1. is a minor designed both for STEM and Non-STEM majors.
- 2. is a "Calculus-free" minor, which makes it easier for Non-STEM majors to add it to their degree plan without worrying much about the difficulty of Mathematics.
- 3. has less emphasis on theory, because it trains students to become "data analysts" not "data scientists". Nonetheless, it teaches the students critical thinking, analytical reasoning and math logic. When it gets to problem solving, they may not necessarily know how to do it by hand and they may rely on software packages. Instead of spending so much time on theory, we emphasize on how to interpret the numerical outcomes and how to write technical reports.
- 4. is mainly focused on the applications of statistics and the ability to run different software packages (e.g., R, Python, SPSS, Tableau, Excel, Matlab). Being familiar with these software packages is a big plus in the job market.
- 5. is an interdisciplinary minor with course offerings from several departments including math, computer science, and the business school. Hence, we anticipate that it will be a popular minor for Non-STEM majors.

## **UMKC Math & Stat Department**

Graduate Programs, Undergraduate Programs, and Career Paths



### Why Major in Math at UMKC?

The Bureau of Labor Statistics (BLS) projects math occupations to grow 27% between 2019-2029, which is much faster than the national average for all occupations. There are several reasons to become a math major at UMKC including but not limited to the following: Students are prepared for stable and well-paying careers in mathematics and statistics, students can enter the fast-track programs to obtain their math or stat master's degree in a shorter time, and the department offers undergraduate research and provides support for those who would like to obtain an internship or gain undergraduate research experiences.

### Minor in Actuarial Science

Actuary job growth between 2018-2028 is expected to be about 20%, with a median salary of \$102,880 per year, according to the Bureau of Labor Statistics. Actuary jobs were rated in 2019 in the top 10 jobs by Career-cast and have continually placed near or at the top of the rankings for the past 10 years. The minor in actuarial science prepares students for the first two actuary exams and provides them credit for validation by educational experience in accounting, economics, and statistics courses. The following diagram shows the career path in actuarial science. All UMKC students can add the actuarial science minor to their degree plan.



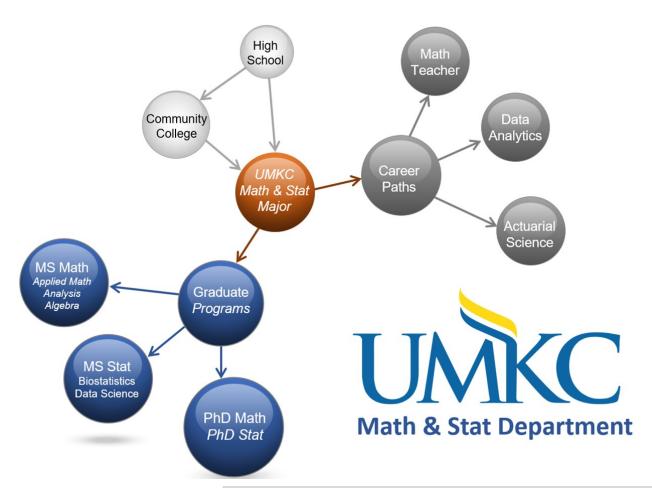
EXAM 1\*
Probability

EXAM 2\*
Financial
Mathematics

## Validation by Educational Experience (VEE)\*\*

- Accounting and Corporate Finance
   Economics
  - \*\* Typically completed while in school







Department of Mathematics & Statistics University of Missouri - Kansas City

### Semesters 1-3

**Fundamentals of Mathematics & Education** 

MATH 120 Precalculus MATH 210 Calculus I MATH 220 Calculus II

STAT 235 Elementary Statistics

STAT 340L Introduction to Data Visualization

STAT 355L Introduction to Diagnostic Analytics

STAT 360L Introduction to Predictive Analytics

COMP-SCI 100 Computer Fundamentals & Applications

COMP-SCI 101 Problem Solving and Programming I

COMP-SCI 101L Problem Solving & Programming I Lab

TCH-ED 160 Introduction to Teaching

TCH-ED 130 Number Systems and Related Topics TCH-ED 140 Geometry for Elementary Teachers Semesters 4-6

Intermediate Mathematics & Education

MATH 250 Calculus III

MATH 300 Linear Algebra I

MATH 301 On Solid Ground: Sets & Proof

MATH 314 Graph Theory with Applications MATH 345 Ordinary Differential Equations

MATH 345L Ordinary Differential Equations Lab

MATH 407 Introduction to Complex Variables

MATH 434 Scientific Computing

MATH 464WI History of Mathematics

MATH 410 Abstract Algebra

STAT 400 Machine Learning & Statistical Modeling STAT 436 Introduction to Mathematical Statistics I TCH-ED 312 Legal and Ethical Aspects of Education TCH-ED 314 Teaching English Language Learners Semesters 7 and 8
Advanced Mathematics & Education

MATH 469 Mathematical Modeling

MATH 401 Data-Driven Modeling

MATH 402 Advanced Analysis I

Math 405 Math Methods in Data Science

MATH 406 Partial Differential Equations

MATH 420 Linear Algebra II

MATH 496 Internship

Math Teacher Curriculum, College experience & Professional Development

Note: The list of courses is subject to change.

STAT 441 Introduction to Mathematical Statistics II STAT 415 Statistical Design of Experiments

STAT 451 Applied Statistical Analysis

TCH-ED 403 Educational Psychology

TCH-ED 404 Education of the Exceptional Child

TCH-ED 420 Adolescent Development and the School

Professional Development: <u>Undergraduate Research Projects</u>, <u>Math & Stat Research Day</u>, <u>Math Competition</u>, Project-based Learning, Dual BS/MS <u>Stat</u> & <u>Math Programs</u>, Networking, Professional Societies, Active Learning, <u>MAT Program</u>, <u>Resume & Cover Letter</u> writing, Interview Skills, Job Search, Negotiation

**College Experience:** <u>UMKC Student Life</u>, <u>Student Clubs (Roo groups)</u>, <u>UMKC Math Club</u>, <u>UMKC Aquatics</u>, <u>Fitness & Recreation</u>, <u>Social Events</u>, <u>Pi Day</u>, <u>Integration Bee</u>, <u>Academic Support & Mentoring</u>



### Actuarial Science Curriculum, College experience & **Professional Development**

Note: The list of courses is subject to change.

#### Semesters 1-3

#### Fundamentals of Mathematics, Statistics & Economics

MATH 120 Precalculus MATH 210 Calculus I MATH 220 Calculus II

STAT 235 Elementary Statistics STAT 340L Introduction to Data Visualization

STAT 355L Introduction to Diagnostic Analytics STAT 360L Introduction to Predictive Analytics

ECON 201 Introduction to Economics I **ECON 202 Introduction to Economics II** ACCTNG 210 Introduction To Financial Accounting

DSOM 211 Business Analytics I DSOM 311 Business Analytics II

### Semesters 4-6 **Intermediate Actuarial Science**

MATH 250 Calculus III MATH 300 Linear Algebra I

MATH 301 On Solid Ground: Sets & Proof

MATH 314 Graph Theory with Applications

MATH 345 Ordinary Differential Equations MATH 345L Ordinary Differential Equations Lab

MATH 434 Scientific Computing

DSOM 309 Intermediate Business Statistics ACCTNG 318 Intro to Data Analysis in Accounting

FIN 325 Financial Management

FIN 345 Investments

STAT 400 Machine Learning & Statistical Modeling STAT 436 Introduction to Mathematical Statistics I

#### Semesters 7 and 8 **Advanced Actuarial Science**

MATH 469 Mathematical Modeling MATH 401 Data-Driven Modeling

MATH 402 Advanced Analysis I Math 405 Math Methods in Data Science

MATH 420 Linear Algebra II MATH 496 Internship

STAT 496 Internship

STAT 415 Statistical Design of Experiments

STAT 451 Applied Statistical Analysis

STAT 441 Introduction to Mathematical Statistics II

FIN 419 Financial Statement Analysis

FIN 445 Advanced Investments FIN 451 Life & Health Insurance

Professional Development: Undergraduate Research Projects, Validation by Educational Experience (Grades B- or better in Econ 201, 202 & ACCTNG 210), Dual BS/MS Stat & Math Programs, Take Financial Mathematics Exam (after FIN 345), Probability Exam (After STAT 436) and STAM Exam (after STAT 441), Resume writing

College Experience: UMKC Student Life, Student Clubs (Roo groups), UMKC Math Club, UMKC Aquatics, Fitness & Recreation, Social Events, Pi Day, Integration Bee Academic Support & Mentoring



### Data Analytics Curriculum, College experience & **Professional Development**

Note: The list of courses is subject to change.

#### Semesters 1-3

### Fundamentals of Mathematics, Statistics & Programing

MATH 120 Precalculus MATH 210 Calculus I MATH 220 Calculus II

STAT 235 Elementary Statistics

STAT 340L Introduction to Data Visualization

STAT 355L Introduction to Diagnostic Analytics

STAT 360L Introduction to Predictive Analytics

COMP-SCI 100 Computer Fundamentals & Applications

COMP-SCI 101 Problem Solving and Programming I COMP-SCI 101L Problem Solving & Programming I Lab

COMP-SCI 201R Problem Solving & Programming II

COMP-SCI 201L Problem Solving & Programming II Lab

DSOM 311 Business Analytics II

### Semesters 4-6 **Intermediate Data Analytics**

MATH 250 Calculus III

MATH 300 Linear Algebra I

MATH 301 On Solid Ground: Sets & Proof

MATH 314 Graph Theory with Applications

MATH 345 Ordinary Differential Equations

MATH 345L Ordinary Differential Equations Lab

MATH 407 Introduction to Complex Variables

MATH 434 Scientific Computing

STAT 400 Machine Learning & Statistical Modeling STAT 436 Introduction to Mathematical Statistics I

STAT 441 Introduction to Mathematical Statistics II

GEOG 444 Spatial Data Analysis **COMP-SCI 303 Data Structures** 

COMP-SCI 320 Data Communications & Networking

### Semesters 7 and 8 **Advanced Data Analytics**

MATH 469 Mathematical Modeling

MATH 401 Data-Driven Modeling

MATH 402 Advanced Analysis I

Math 405 Math Methods in Data Science

MATH 406 Partial Differential Equations

MATH 420 Linear Algebra II

MATH 496 Internship

STAT 496 Internship

STAT 415 Statistical Design of Experiments STAT 451 Applied Statistical Analysis

COMP-SCI 461 Introduction to Artificial Intelligence COMP-SCI 470 Introduction to Database Management Systems

Professional Development: Undergraduate Research Projects, Math & Stat Research Day, Math Competition, Project-based Learning, Teamwork, Dual BS/MS Stat & Math Programs, Networking, Professional Societies, Active Learning, Presentations, Resume & Cover Letter writing, Interview Skills, Job Search, Negotiation

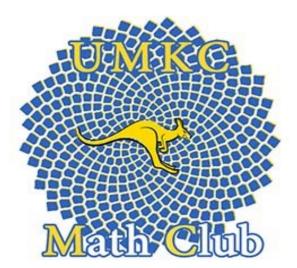
College Experience: UMKC Student Life, Student Clubs (Roo groups), UMKC Math Club, UMKC Aquatics, Fitness & Recreation, Social Events, Pi Day, Integration Bee, Academic Support & Mentoring

### Student Organizations affiliated with the Department of Mathematics and Statistics



The purpose of the UMKC Chess Club is to provide a friendly environment in which its members may play, instruct, and discuss chess. The Chess Club will supply chess sets and clocks for its members. It also holds at least one open tournament annually, for all interested UMKC Students and future potential students. The Chess Club is dedicated to advancing chess by offering instruction to all UMKC students and future potential students.

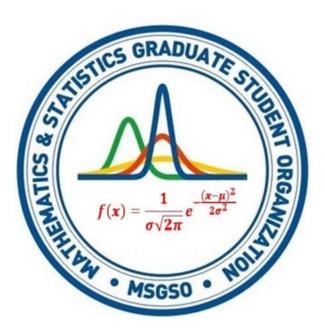
Find out Chess Club meetings and activities at: <a href="https://roogroups.collegiatelink.net/organization/ucc/documentlibrary">https://roogroups.collegiatelink.net/organization/ucc/documentlibrary</a>



The UMKC Math Club promotes interactions between faculty and undergraduate students; provides mathrelated activities such as problem of the week, math movie nights, and math contests; invites math alumni and various employers to give insight into the current math job market; facilitates communication between math graduate and undergraduate students.

### Location: Manheim Hall Room 205 C

You can learn about Math Club meetings and activities at <a href="https://roogroups.collegiatelink.net/organization/">https://roogroups.collegiatelink.net/organization/</a> umkcmc



The purpose of MSGSO is to represent the graduate student body of the UMKC Department of Mathematics and Statistics; to provide a forum for graduate student opinion; to act as a voice for the graduate students in matters of mutual interest to graduate faculty and students; and to promote professional interest and fellowship among the graduate students.

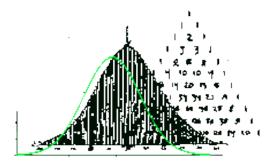
### Location: Manheim Hall Room 205 C

You can learn about MSGSO meetings and activities at <a href="https://roogroups.collegiatelink.net/organization/">https://roogroups.collegiatelink.net/organization/</a>
<a href="https://roog



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Editors/ Writers: Majid Bani-Yaghoub and Richard Delaware E-mail: baniyaghoubm@umkc.edu Newsletter published Oct. 2021



Visit our Website at http://cas.umkc.edu/Math

Type address here or use Mail Merge to automatically address this publication to multiple recipients.

### Become a Member!

We encourage you to register as a member of the **UMKC Alumni Association**. Just go to the UMKC alumni website <a href="www.umkcalumni.com">www.umkcalumni.com</a>, click on the tab at the top of screen called "MY PROFILE/LOGON", and follow the instructions.

If you would like to donate to UMKC, please visit the UMKC Foundation web pages at <a href="http://www.umkc.edu/umkc-foundation/">http://www.umkc.edu/umkc-foundation/</a>, where you will find links to Gift Planning, the Alumni Fund, creating a scholarship, and so on. Our department is one of the few with no department scholarships for our undergraduate majors, and you might be the first to initiate one.

### Send Us Your News!

We're always happy to hear from you. Send a paragraph or two and let us know what you have been up to. Pictures are welcome.

Please include your name, mailing address, and email address so we can contact you.

Send to: **Dr. Richard Delaware** at delawarer@umkc.edu

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RooMath News, Dept. of Mathematics & Statistics, HH206, University of Missouri-Kansas City, 5100 Rockhill Rd, Kansas City, MO 64110

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Undergraduate Advisor: Dr. Eric Hall
Precalc Alg. Coordinator: Ms. Kathman
Math Lib Art Coordinator: Dr. McCoy
Elem. Stat Coordinator: Dr. Mawella
Calculus Coordinator: Dr. Liana Sega
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