FALL ’25

Nevada State University

THE DESERT MATHOLOGER

Program Newsletter for Mathematics + Data Science

Cover photo: Joseph Yadovsky, *Pagoda—Maple and Thermo-Treated Pine* (MathFest 2025, Sacramento). Photo by Sungju Moon.

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WELCOME TO FALL 2025!

Whether you're a graduating senior, an incoming freshman, or anything in between, community is vital to your journey at NSU. Math and Data Science can be scary, but it's way less scary with friends, food, and fun activities. The Math and Data Science Club is here to support you and welcome you into our cross disciplinary friendships, where professors and students connect and support each other. Join us this fall for teatime, field trips, study sessions, and more!

Mary Giles
President
Math & Data Science Club

Flyer made by Lukas Taylor

This semester's newsletter was compiled by Dr. Sungju Moon with the help of many. Special thanks to all contributors and proofreaders.

News & Events

- The **All Math and Data Science Advising Meeting** is scheduled for Thu, Oct 16, 3:30–5PM. This is your opportunity to ask questions regarding your degree program, and network with faculty and peers. Please RSVP at https://nevadasc.co1.qualtrics.com/jfe/form/SV_eLnPVwvDVBV8jwa

- The **Putnam Exam** is held this year Saturday December 6th, 8AM–4PM in DA 106. We'll order pizza, play games during the break, and discuss the problems together after the exam.

  - MATH 491 is running currently on Thursdays at 2-3:20PM and is on the books for next semester at the same time. More on Page 6.

- Many **summer REU** (Research Experience for Undergraduates) application deadlines fall in January or February. If you are interested in external summer research experience, REUs are an excellent opportunity.

  - Not into research? There are also mathematics summer schools for undergraduates. Two well-known examples are the Park City Mathematics Institute (PCMI) and the Connecticut Summer School in Number Theory (CTNT). Application to PCMI 2025 was due Jan. 31, 2025. CTNT's deadline is usually announced in the Spring.

- The **Math and Data Science Club** has a various different events planned this semester including:

  - *Tuesday Tea* continues strong each week in the Dawson Lobby. Enjoy tea, coffee, and light snacks. Bring your favorite math mug! It's a chance to relax, chat about math or life, play board games, or work on homework alongside friends from math and data science.

  - *Colloquium Talks.* We gather in Dawson's Language and Learning Lab on a quasi-monthly basis to hear engaging talks from mathematicians across the country and abroad. In September, we welcomed Dr. Maryke van der Walt (Westmont College), who spoke on predicting blood glucose levels. On **Oct. 14th, Dr. Jodin Morey (Le Moyne College) will present a talk on satellite orbit stability**. The December series will feature presentations from our own Mathematics Capstone students.

  - Join us at *Gilcrease Orchards* (Address: 7800 N Tenaya Wy, Las Vegas, NV 89131—You might want to plan your trip ahead) on **Oct. 18th at 9AM**. Then we will head back to school for pumpkin painting, movies, and hangout with friends!

  - Earlier this semester, Dr. Chad Curtis led a Data Science Workshop on Backgammon. It was a great success! Stay tuned for announcements about *Astronomy Night with Dr. Curtis* coming this November!

NEVADA STATE UNIVERSITY

MATH AND DATA SCIENCE ADVISING MEETING

THIS IS YOUR OPPORTUNITY TO ASK QUESTIONS REGARDING YOUR DEGREE PROGRAM AND NETWORK WITH FACULTY AND PEERS.

THURSDAY, OCTOBER 16

3:30 PM-5:00 PM

Dawson 108

RSVP: https://nevadasc.co1.qualtrics.com/jfe/form/SV_eLnPVwvDVBV8jwa

For more information contact, Dr. Krystle Oates

Krystle.oates@nevadastate.edu

Dr. Chad Curtis playing Backgammon with a student.

Spring 2026 Courses to Consider

ART 240 3D Modeling for 3D Printing

(Tentatively) MoWe 9:30–11AM

ART 240 is a practical course in 3D modeling for 3D printing. In addition to the modeling process, you will learn about 3D printing technology and have a broad enough foundation that you could launch into 3D printing as a hobby. This course meets the Fine Arts requirement for the Core Curriculum.

CS 482 Artificial Intelligence

MoWe 12:30–1:50PM

Explore the history of AI from the 19th century to the present. It's a non-technical survey course—no coding required. You must be a junior or a senior to take this course.

MATH 491 Problem Solving Workshop

Th 2–3:30PM

This 1-unit course is designed to foster creative problem-solving skills. And if you take the course 3 times, it counts as an upper-division elective.

Here's a fun Putnam problem from the 2021 Putnam Exam:

> *A grasshopper starts at the origin in the coordinate plane and makes a sequence of hops. Each hop has length 5, and after each hop the grasshopper is at a point whose coordinates are both integers; thus, there are 12 possible locations for the grasshopper after the first hop. What is the smallest number of hops needed for the grasshopper to reach the point (2021, 2021)?*

MATH 389 Special Topics—Advanced Topics in Algebra

TuTh 11:00AM–12:20PM

This course formally combines the two secondary-sequence offerings in Abstract Algebra and Linear Algebra. It is designed so that students can engage meaningfully with both portions of the course, regardless of their prior background in algebra.

1. Part 1: Visual Group Theory

   This part focuses on the core ideas of group theory, the mathematics of actions and their combinations. Using examples such as rotations, reflections, and card shuffles, we uncover the defining features of a group: a *do-nothing* action, the ability to undo every action, and consistent rules for combining them. These principles expose the structures that appear across mathematics, from geometry to number theory. Emphasis will be on proof writing, conceptual understanding, and visualization of algebraic structures.

   A background in Abstract Algebra (MATH 453) is helpful but not required; students should be comfortable with reading and writing rigorous proofs. Based on student interest, we will devote part of the semester to two projects:

   - ✓ Galois Theory: for students with MATH 453 background; explores how symmetries of polynomial roots classify field extensions and determine when equations are solvable by radicals.
   - ✓ Algebraic Coding Theory: for students with Linear Algebra background; examines how group theory supports error-detecting and error-correcting codes.

   Students can expect regular problem-solving, in-class presentations, and weekly assignments to strengthen their reasoning and proof skills.

2. Part 2: Applied Linear Algebra

   This part builds on concepts first introduced in Linear Algebra I (MATH 330) with a focus on applications and modeling. Students will complete six numerical projects illustrating how linear algebra drives problems such as infectious disease modeling, the PageRank algorithm, linguistic analysis, nonlinear dynamics, and climate data. These projects introduce widely used numerical methods, including:

   - ✓ matrix decomposition methods (including singular value decomposition),
   - ✓ least squares fitting and regression analysis,
   - ✓ linear stability and bifurcation analysis,
   - ✓ principal component analysis and data assimilation (including Kalman filter)

   Students can expect to gain proficiency in implementing algorithms, analyzing real data, and connecting linear algebra with dynamic systems and modern data science applications.

CS 482: Artificial Intelligence

Spring 2026

MW 12:30-1:50

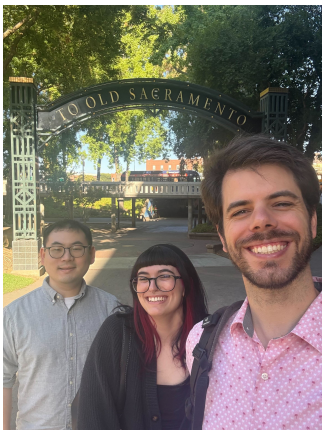
- Explore the history of AI from the 19th century to the present.
- Non-technical survey course– no coding required.
- Must be a junior or senior.

My First Math Conference

By Jules Perna | Data Science Major

I was given the opportunity to attend MAA MathFest 2025 through my summer research program, INBRE, alongside Dr. Curtis and Dr. Moon. As someone who isn't a math major and hasn't taken many advanced math courses yet, I expected to feel overwhelmed and out of place. Instead, the experience was the complete opposite!

Throughout the conference, I got to hear from educators about bringing Data Science into classrooms, which gave me hope that in the future, more schools will begin offering programs or even integrating more data-driven approaches into statistics and possibly mathematics courses. I also attended interesting statistics talks, including one presented by a group of undergraduates who developed an interactive app for students playing darts on campus. By collecting and analyzing this data, they explored questions around skill, technique, and performance. My favorite talk was on procedural generation, which is the algorithm behind creating terrain in video games. It was fascinating to realize that something most of us never think twice about while playing games actually relies on sophisticated mathematics. Even more exciting was seeing that it uses linear and non-linear interpolation, concepts I already understood and could connect to my own learning.



While MathFest was definitely an academic conference intended for educators, as a student I had a great experience. It encouraged me to see myself in the broader world of Math and Data Science. I left feeling more confident in my choice of study and knowing I'm in the right place.

2025-26 NEVADA MATH

MathRocks!

CONTEST SERIES

ABOUT

MathRocks! is for students grades 1-12. For more information, please visit: nevadamath.org/mathrocks

Series (6 contests): $120
Single contest (early): $25
Single contest (regular): $30

For 2025-26, we will be incorporating the following national contests:

- American Scholastic Mathematics Association
- MathLeague.com
- Mathematical Olympiads for Elementary and Middle Schools
- Pi Math Contest
- Primary Math Challenge

CONTEST DATES

tentative dates

Contests run: 9am-12:15pm
Check-in: 8:45 am

2025

- September 20
- October 25
- November 22

2026

- January 24
- February 21
- March 14

2026 State of Nevada Math Championship: April 11

INFO

Sponsors Appreciated & Volunteers Needed!

Financial assistance available. Please visit:

nevadamath.org

Microsoft

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Please email questions to Angela@NNVMath.org

Nevada Math is a 501(c)3 non-profit Charitable Organization.

EXIT INTERVIEWS

We sat down with two graduating mathematics majors to reflect on their journeys. They offered candid perspectives on the math program, their academic experiences, and the community. Their insights as well as some practical advice for students follow below:

Mary Giles

Could you start by introducing yourself?
My name is Mary, and this is my last semester completing my bachelor's degree in mathematics.

Congratulations! Looking back, what first drew you to mathematics as a major?

"I'm keeping an open mind, just like when you start a proof—you don't always know where it will go."

In high school I was taking dual credit courses, and my teacher gave me a form that would let me waive future math classes. I sat there and realized I didn't want to waive them because I actually liked taking math. So I thought, why not major in math? That way I'd never have to stop taking it. That was genuinely how I decided.

That's a great story. It's funny how often people arrive at math almost by accident and realize they don't want to let it go. How has your view of math changed since you began?

I used to think math was about being right all the time, doing calculations quickly, and memorizing formulas. Over time, I realized it's really about thinking deeply and understanding. It's gotten so much more interesting. There's more depth, more beauty, and more open questions than I ever imagined.

Speaking of beauty, was there a moment when you saw its beauty in a new way?

That happens over and over, at least once per class! But the first big one was in trigonometry when my professor wrote down $e^{i\pi} = -1$. That was the first time I thought, 'That's crazy. That's beautiful.' All the important numbers are in one equation. Since then, there's always been some new, elegant result that strikes me.

Even in STAT 152?

We will see. I think it's going to happen.

Beautiful or not, was there any math idea that you found yourself thinking about outside of class?

The Central Limit Theorem and some of the debates we had in Math History [MATH 314] about free will and probability still come to mind. I also think a lot about Geometry [MATH 475]. Even though it was one of the least "applied" classes, it was full of results that were simply beautiful like the nine-point circle.

Shifting from beauty to more practical matters, what skills or habits have you developed as a math major that you didn't expect?

Coding! When I started, I didn't even know how to save a file. My friends in Differential Equations [MATH 427] had to teach me. Now I can use three or four programming languages. Another big skill is persistence. The Proofs class [MATH 301] taught me to work on something

a little every day, even if I don't get anywhere. That discipline has been invaluable.

Do you have a memorable course or project you'd like to share?

I should definitely mention the INBRE research project. We worked on infectious disease modeling, and it built directly on what we learned in differential equations. What I loved was how everyone's piece fit together. Ryllie did parameter space modeling, which leaned on the differential equations; Rose focused on the networks; and my model needed both. I was pulling ideas from the equations side and from the network side. It was so cool to see how all those approaches connected.

You had some nice results that could really be polished into a student journal article, though maybe not this semester.

No, not this semester for sure; too much going on. But I keep thinking, I really should keep writing that paper!

What about courses?

Too many to choose from! But I loved Real Analysis [MATH 457]. It was really hard and definitely made me cry sometimes, but it was also fascinating. I still think about the results from that class a lot. I also really enjoyed Discrete Math [MATH 381] and Geometry; they opened up whole new ways of thinking.

Writing proofs can be a big adjustment.

Definitely. On the very first day of our Proofs class, Prof. Churchman warned us: "You're going to cry, you're going to sit and stare at the whiteboard, you're not going to know what's going on. It will be harder than anything you've done before." I didn't believe him at first, but he was completely right. And yet, that struggle is part of what made the experience so rewarding.

Rewarding it may be, that still sounds tough. Did classmates, faculty, or clubs play a role in helping you through those challenges?

Mary and Ryllie

Huge. When I was at CSN, I didn't really have friends in math. Most people were commuters or older. Then, during Differential Equations, I was completely lost on the first homework. Ryllie came up to me afterward and said, "You look less lost than I am." We ended up going to Math Tea, and there we met Josh & Josh, Rose, and Jason. We all realized we were struggling with the same things from Differential Equations. We finished our homework together, and it made everything so much easier and so much more fun.

That was the start of a math community for you. In fact, I think I remember witnessing that moment myself as well.

Yes, you were there at the Tea! Suddenly I wasn't doing it alone. It was magical. From then on, Math Tea became a place I looked forward to.

Personal connections can certainly make a big difference. What about connections in the math itself? Have you come across unexpected connections between different areas of math or even with other fields?

Taking Real Analysis and Complex Analysis

[MATH 459] together was incredible. Everything we worked so hard for in Real Analysis bloomed beautifully in Complex Analysis. And when I started looking at job postings and graduate programs, I was amazed. I even saw one for gemology (study of gems) that wanted experience in graph theory and topology! It made me realize math connects to so many unexpected places.

How do you see mathematics shaping your future?

I don't know exactly, but I'm learning to be comfortable with that. When I started, I didn't even know if I'd finish the degree, and now I've seen how many directions it can lead. I'm keeping an open mind, just like when you start a proof, you don't always know where it will go.

And for a final question: what would you say to a student who's curious but unsure about majoring in in math?

If you're curious about math, that's rare and important. The world needs people like you. Math is everywhere: in computers, in school systems, in analyzing data and budgets. It helps the world move forward, and it helps you grow as a person. Yes, it's a hard major, but hard things are worth doing, and they make you feel accomplished. I feel very accomplished.

And you deserve to feel that way. Mary, thank you for sharing your journey with us.

Thank you!

Ryllie Pate

Please introduce yourself.

Hi, my name is Ryllie. I'm graduating with a Mathematics major and no minor.

So, what first drew you to mathematics as a major?

I started with Biology, and then I realized I didn't like the memorization part. So, I switched to Math.

But why Math in particular out of all the majors?

I just liked math!

Has your view of math changed since you began your studies?

I feel like when I first started it, I imagined doing a lot of arithmetic, and now it's pivoted to a lot of proofs and intuitive understanding of mathematical concepts.

A positive change then?

I suppose it was positive, yeah. I feel like I understand the arithmetic a lot better because now I understand all of the background stuff.

So how did that transition go? Was there a moment when math just "clicked" for you?

I'd say I started viewing math differently in Real Analysis [MATH 457], actually. Because that was my first proof-heavy class. And I started seeing how mathematics could be done in a proof-based format rather than just doing the arithmetic.

Do you think about this stuff outside of class?

The Intermediate Value Theorem still blows my mind. It's kind of crazy how math guarantees existence in theorems like that. I've understood those proofs very well. I've also been enjoying

dabbling in graph theory through my Capstone class [MATH 489]. I don't know it very well yet, but I am really enjoying the process so far.

"Math is kind of about failure. It's about learning and growing from your mistakes."

Would you say studying math helped you develop certain skills or habits of mind?

It's critical thinking. Obviously, I expected it, but it's a different type of critical thinking—evaluating all of what you know first before trying to tackle an answer. It's a habit of mind that applies to just my whole thinking process now. I think math changes people's thinking process.

So, how are all this things connected? Especially to the real world?

I've found that all of math is connected, at least in some way. There's always something in one class where I'd say, "I saw that in another class." As for real-world connections, I see math everywhere. Like in that table over there? I can see some topology.

Any favorite memories, a course, or a project?

Besides Real Analysis, I want to add Differential Equations [MATH 427], especially the Cat Gang project!

What was the Cat Gang project?

The Cat Gang project was looking at the population of birds compared to the population of cats—stray cats—and the effect of cats killing birds. It was like a survival SIR model. While it wasn't exactly SIR, it ended up being an experience where we dipped our toes into modeling. The model was actually more similar to the lynx and hare predator-prey model. In our case, the predator here was cat. Don't let your cats outside. They kill birds!

Speaking of Cat Gang, that's what we called ourselves. I made a really good group of friends where we all help each other with homework. I love Mary. I love Rose. There are some others, but those are the main people.

So they are the first people you took math classes with, and you all kind of stayed together?

Yeah, kind of. I definitely stuck to Mary early on after meeting her in Differential Equations, and I got to know her beautiful personality and I enjoyed hanging around with her.

How do you see math shaping your future career or graduate studies?

As I learn more about math, I want to learn even more. I think I want to eventually go to grad school—not immediately, but someday. I definitely want math to impact my career choices. I want a job where I use some math skills, whether that be coding or using linear algebra in some way. Life would be kind of boring without math. What am I going to do if I'm not crying over proofs? Somewhere, everywhere, you can use math.

So, you've switched your major to math. What would you say to a student who's on the fence, either because they don't see a clear path in math, or they're afraid of math even though they kind of like it?

I'd say, give it a shot. It's not necessarily what you're going to expect, but it's definitely worth it. Don't be afraid of failure. I feel like a lot of people don't want to do math, or they hesitate because they're scared they're going to fail. Math is kind of about failure. It's about learning and growing from your mistakes.

Sketch of
Prof. Aaron Wong
by Jo Meuris

Faculty Spotlight: Dr. Aaron Wong

This semester's newsletter faculty spotlight features Dr. Aaron Wong, who is the longest-serving member of the math program and a quiet force behind the establishment of the data science program in its early days.

You've now been here for how many years? What first brought you to NSU back then?

I started here in 2007, which is just 5 years after the college was created. I came here straight out of graduate school after earning my Ph.D., and I was excited by the idea of getting in at the ground floor at a brand-new teaching-focused institution of higher education.

As the math faculty member with the longest tenure here, what kinds of changes have you seen in the program or on campus over the years?

When I started, the campus had not yet built its first new building. So the physical infrastructure is one of the most visible changes. It's also harder to know people across the different disciplines because there are so many of us. When I started, there were 3–4 faculty in each office, and you only needed to walk a couple doors away to find people in other academic areas. We're a lot more spread out now.

When I started, there was only a math education major, but no pure math major. We created that back in 2015 (I think). One of the big changes is that we have many more faculty teaching the upper division courses, which helps the students to get a broader range of perspectives, and allows us to teach closer to our areas of expertise. This gives students a much better academic experience than having it be mostly me.

Any favorite memories?

My favorite days were always Putnam days. Back when we first started doing it, about half of the math students were participating, so it was a great time as a community. There's no bonding experience quite like feeling stupid around other people, and being okay with that. One year, someone made us T-shirts that said something like "All I want is for someone to get a positive score" (which is something I said when I was setting expectations for the competition). And we played a lot of Ricochet Robots at lunch. The competition got pretty fierce as everyone gained experience playing the game.

This is a good place for a shameless plug: I believe all math and math-adjacent students

should take MATH 491. It's an easy 1-unit course that is designed to foster creative problem-solving skills. And if you take the course 3 times, it counts as an upper-division elective.

If you could give one or two pieces of advice to students taking math now, what would you tell them?

"People tend not to see mathematics as a creative endeavor, but that's a mistake. There's a lot of creativity required to be a successful mathematician."

One of the things I enjoy about mathematics is the interplay between rigidity and flexibility. On the one hand, math is built on very strict definitions and rules of logical inference. On the other hand, there's a seemingly infinite number of ways to operate within those structures. People tend not to see mathematics as a creative endeavor, but that's a mistake. There's a lot of creativity required to be a successful mathematician. Making connections between seemingly disparate mathematical fields is a core skill that you can develop. So try not to get lost in the weeds of the specific class you're working on and see if you can make those bigger connections. That's where the real fun is.

The other piece of advice is to build connections with your classmates. You learn better in community, and the math that you can develop is more robust when you have a community of people doing it. It's hard to convey how important collaboration is to mathematical thinking. One of the things that makes Terence Tao (perhaps the most prominent mathematician today) so amazing is his ability to work across so many different disciplines with so many different people. He's doing far greater work than he would have been able to do alone.

What would you say to a student who's hesitant, maybe right on the fence about majoring or minoring in math?

I would probably try to sell you on the usefulness of a math degree. The world is very math-phobic. If you have a degree in math, even just a minor, you already stand out from others. And the tools that you will develop are some of the most transferrable skills out there. It's not just the rigidity and flexibility mentioned above. It's also learning to use language precisely and developing the skills of a clear-minded thinker. You will have the ability to make connections that nobody around you will make. These are things that help you to get promoted and earn a higher income.

But to be clear, I don't think that economic incentives are the best reason to study math. I think it's a topic worthy of being studied for what it is. I think the skills you can develop are valuable in and of themselves. But if you're on the fence about it, the idea of boosting your income can be a helpful tipping point.

And finally, after all these years, what are your hopes for the future of the math program at NSU?

My long-term hope is that Nevada State University would be the place to go for students interested in pursuing math degrees. I want to see us become the center of a mathematical community in the Las Vegas area, and specifically a community that spans across all levels of education (K-12, college, and professionals). How this will ultimately look is a mystery to me. But I firmly believe that there is untapped potential here and that NSU is the place that will figure out how to unlock those possibilities.

TAYLOR AND THE CATASTROPHE

Harmony Styron · Dr. Sungju Moon

LONG ago, in the Land of Functions, lived a curious explorer named Taylor. The land was surrounded by mountain ranges called the Functions, and at their feet lay special spots called *equilibria*. Taylor loved to visit the equilibria, where the horizon met the outline of the mountains.

The equilibria were tricky. Sometimes they were stable and safe. Sometimes they were unstable and shaky. Between any two unstable equilibria, the ground collapsed into a sinkhole, creating a brand-new stable equilibrium.

Beyond the mountain ridge lay the Ancient Forest, a dark place riddled with spiders. Taylor's favorite spot was the hidden valley, which he called the *refuge*. Between these two equilibria lay a shaky ground where any step might suck the traveler into the Ancient Forest or, if fortune allowed, bounce them back to the refuge. Above this shaky spot rose a lonely mountain peak like a watchful canopy.

Lord Hessian was the guardian of all bendy paths. If Hessian saw no blind spots, it meant the paths would just bend everywhere but safely. Lord Hessian would shout "invertible!", and this would tell people that the land was safe, nondenegerate.

Taylor the Explorer was a brave soul, but he did not travel alone. By his side trotted his faithful guide dog, *Invfuncthm*. Invfuncthm had a nose for safe paths and could sniff out coordinate changes in the nondegenerate lands.

One day, a prophet named Morse emerged from a long hiatus. There came a warning: "Lemma tell you this: when the Function Mountain is raised, the good explorer shall be taken into the Ancient Forest, and an outbreak of giant spiders shall darken the land." Taylor shivered upon hearing these words.

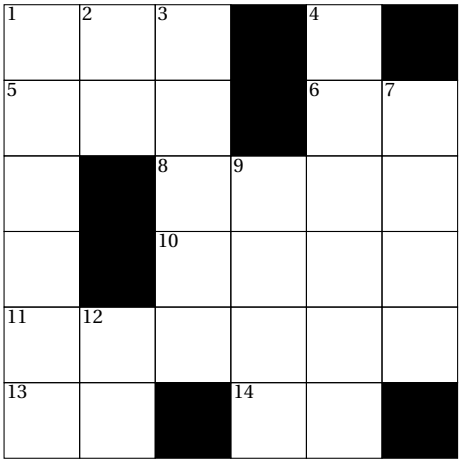
Seeking help, Taylor climbed to the high tower of Lord Hessian. There he was given a spell, known to all as *Bifurcations*. "Use this incantation wisely," said Lord Hessian. "It may bring the mountain down to safety."

Suddenly, as prophesied, the mountain rose like a dragon's back. The ground split open, and Taylor tumbled into the outbreak point in the Ancient Forest, swarmed by spiders. Desperate, Taylor cried aloud: "Bifurcate! Bifurcate!" The mountain groaned and sank back down.

But the damage was already done. Even though the land returned to its normal height, *Invfuncthm* could not trace the way out. The ever-wise Lord Hessian remarked: "Water once spilled cannot be gathered again." Taylor knew the inevitable truth: this was no ordinary fall. *It was a Catastrophe!*

Harmony Styron is undertaking an independent reading in catastrophe theory and nonlinear dynamics with Dr. Moon. These passages are inspired by Ch. 3 of the book ***Nonlinear Dynamics and Chaos*** *by Steven Strogatz.*

Crossword Corner



ACROSS

1. Organizer of MathFest
5. Bear in Spanish
6. Concave _____ when $f'' > 0$
8. MIT prof. of diff. eq., 1931–1999
10. Every
11. MATH 330
13. Conditional argument
14. Tiny unit...or where Oppenheimer built the bomb (abbr.)

DOWN

1. Plural of complex distance
2. $\lim_{x\to\infty}$ reads ___ x goes to infinity
3. Faculty spotlight faculty
4. Long math exam with median score = 0
7. Couple, as in complex conjugates
9. Portent of things to come
12. Turns inexact differential into exact (abbr.)

APPLIED STATISTICS

A new interdisciplinary minor

Why Applied Statistics?

Turn your math and data skills into real-world impact. The Applied Statistics Minor gives you the analytical tools to tackle problems across every discipline.

- ✓ Maximize your mathematical reasoning combined with data-analytic skills
- ✓ Expand your statistical toolkit for tackling diverse, complex problems
- ✓ Add a rigorous quantitative dimension to your degree

Core Course Progression

STAT 152 (Introduction to Statistics)
→ APST 311 (Applied Statistics I)
→ APST 312 (Applied Statistics II) & MATH 352 (Probability and Statistics)

STAT 152 and CS 138 are already required for math and data science majors!

Additional Requirements

- ✓ CS 138 (Programming For Data Science)
- ✓ A stats course in your degree program (e.g. PSY 210, STAT 391, DATA 330)

Plan Ahead!

1. Declare the Minor in Fall 2025!
2. Take STAT 152 ASAP
3. Plan to take APST 311 in Fall 2026

Quantitative Skills,

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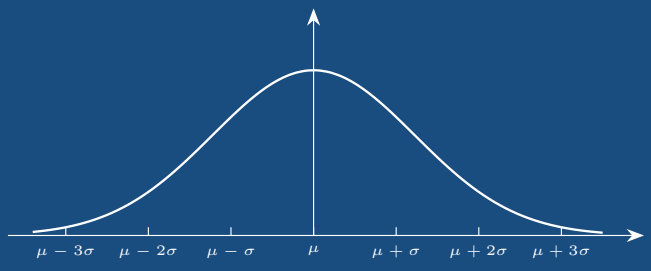
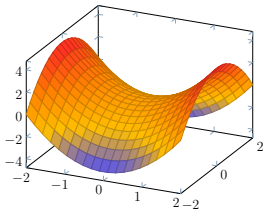
Bring your mathematical expertise to *any discipline*.



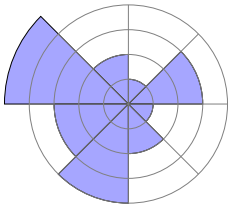
Got Questions?

Get in touch with any of these professors!

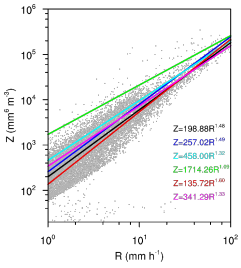
PROF. Sungju Moon
PROF. Krystle Oates
PROF. Aaron Wong



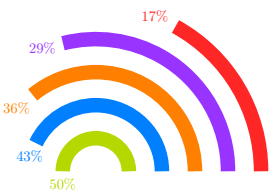
Optimization



PCA/EOF Methods



Regression Analysis



Statistical Inference