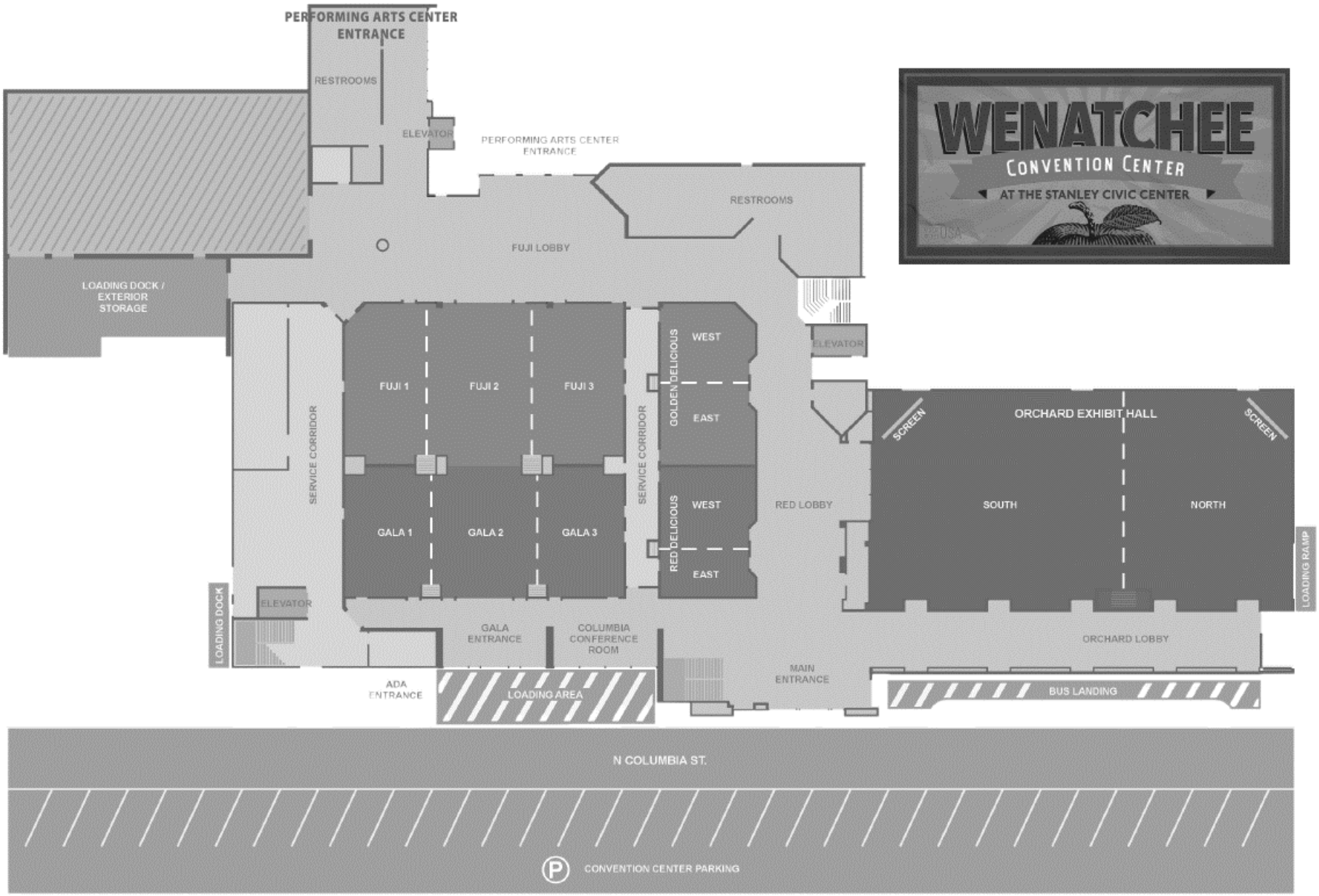
Washington College Mathematics Conference

May 1-3 2025

Conference Schedule

Date	Time	Event (location)
Thursday, May 1st	4-7 pm	Check-in (Red Lobby)
	7-8:30 pm	Kick off: Student Engagement- Rochelle Mitchell and GRC Faculty members (Orchard Reception)
Friday, May 2nd	6-7 am	Yoga (Blossom Harvest)
	7:30-8:45 am	Check-in (Red Lobby)
	7:30-8:45 am	Breakfast buffet (Orchard Reception)
	8:50-9:40 am	Session I (various)
	9:40-10:05 am	Snacks available (Gala 2+3)
	9:55-10:45 am	Session II (various)
	11-11:50 am	Session III (various)
	12-1:15 pm	Lunch buffet (Orchard Reception)
	1:30-2:20 pm	Session IV (various)
	2:35-3:25 pm	Session V (various)
	3:25-3:50 pm	Snacks available (Gala 2+3)
	3:30-5:30 pm	Break/check out local activities https://wenatcheefirstfridays.com/
	5:30-6:30 pm	Dinner buffet (Orchard Reception)
	6:30-7:45 pm	Keynote speaker-Charles Camacho (Orchard Reception)
	8-10 pm	Social sponsored by Cengage and Macmillan
Saturday, May 3rd	8-9 am	Breakfast buffet (Orchard Reception)
	8:30-9:30 am	WAMATYC General Meeting (Orchard Reception)
	9:45-10:35 am	Session VI (various)
	10:50-11:40 am	Session VI (various)
	12-1 pm	Turn in name badges (Red Lobby)

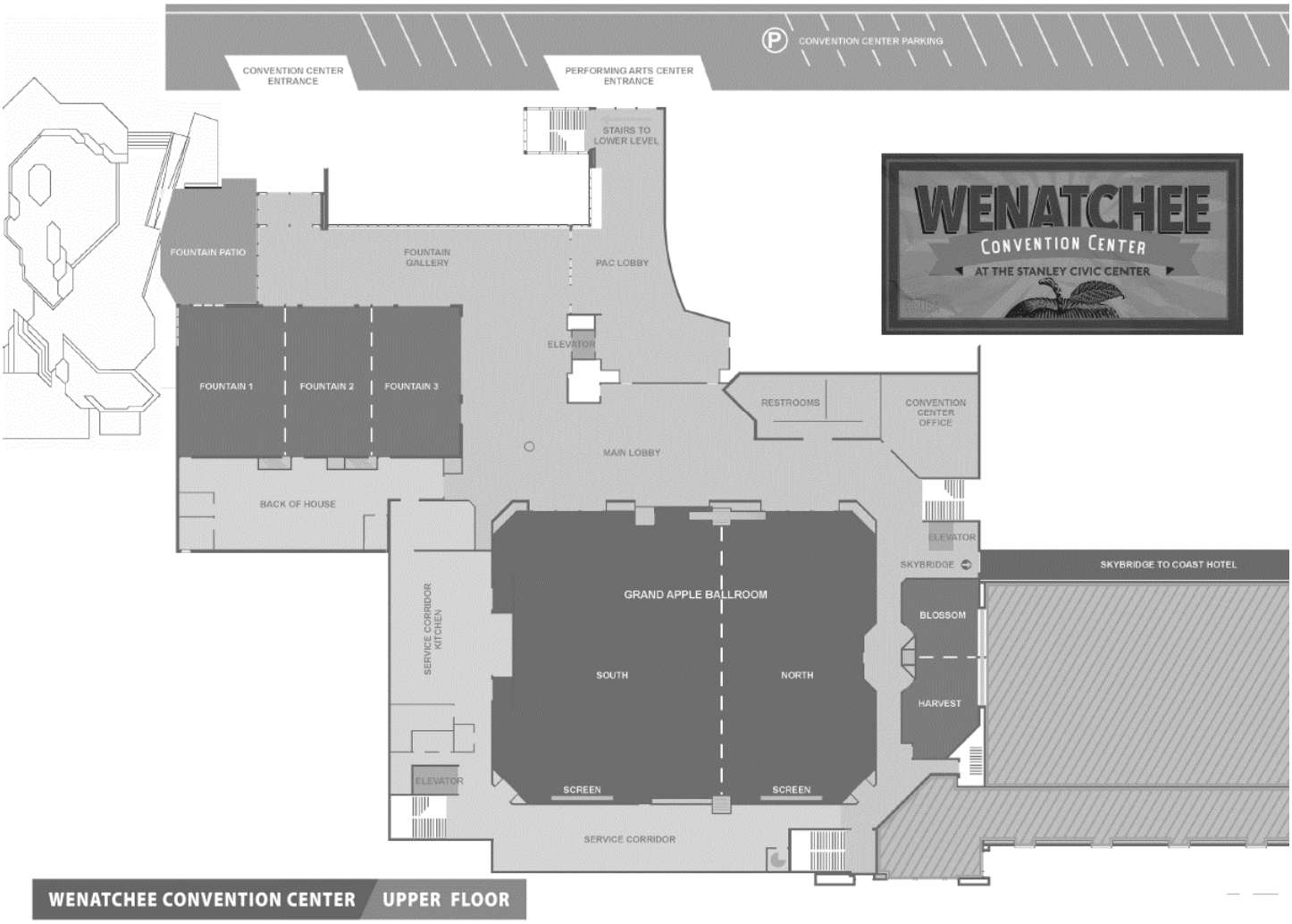


WENATCHEE CONVENTION CENTER

AT THE STANLEY CIVIC CENTER

USA

WENATCHEE CONVENTION CENTER **LOWER FLOOR**



Room	Event
Gala 1	Session presentations
Gala 2+3	Vendors and snacks
Red Delicious East+West	Session presentations
Golden Delicious East+West	Session presentations
Blossom Harvest	Quiet room, game room, yoga
Orchard South	Banquet room, meals
Orchard North	Friday night social

Thursday Kick-Off:

Math Class Can Be Fun? Engaging Students Through Connection, Collaboration, and Creativity

Rochelle Mitchell and GRC Faculty Members

Abstract: Student engagement is a key ingredient in successful mathematics instruction, yet it can often feel elusive. In this interactive talk, we'll explore practical strategies for transforming the classroom into an inclusive and dynamic student-centered learning environment. From fostering authentic connections with students to promoting collaboration through group work and peer interaction, this session will highlight techniques that spark curiosity and deepen understanding. Attendees will HAVE FUN and leave with a toolkit of ideas ready to bring joy and engagement into their own classrooms.

Bio: Rochelle Mitchell has been teaching mathematics at Green River College since 1996, which means she's been explaining why cancelling across addition is a "no-no" since dial-up internet was a thing. Her teaching focuses on developmental math through the first couple quarters of calculus—basically, she helps students survive and (hopefully) thrive in the early stages of their math journey. Rochelle has attended the WAMATYC conference more times than she can count, but this is her very first time giving a talk. Why not start with a keynote, right?! She's excited—and just the right amount of nervous—to finally be on the other side of the projector screen and be the center of attention. Rochelle's amazing GRC math colleagues will be hassling you helping with the presentation.

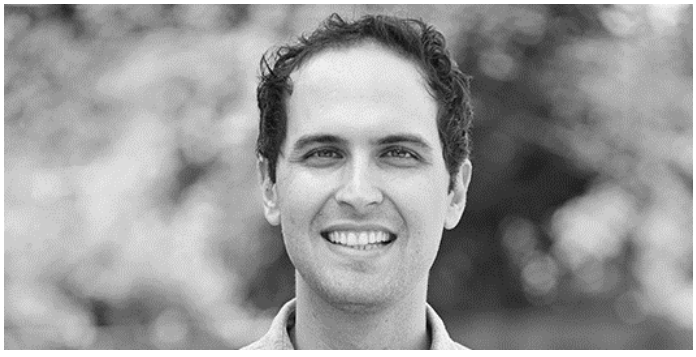
Friday Keynote:

Enhancing Student Learning Skills

Charles Camacho, Ph. D.

Abstract: With the proliferation of AI technologies in math education, and increased isolation and wider gaps in foundational knowledge among college math students, how do we best engage students and bring the human element into our math classes? In this talk, I will describe how increased access in my introductory calculus classes at the University of Washington, Seattle promote two main learning skills: self-efficacy and group learning. The talk will include many practical takeaways.

Bio: Dr. Charles Camacho is an assistant teaching professor in the department of mathematics at the University of Washington, Seattle. He is interested in engaging and empowering students through process-oriented learning and community building in the classroom, and also interested in developing partnerships across departments and organizations in supporting student success. Besides teaching math, Charles also enjoys playing music, gardening, and outdoor recreation.



FRIDAY MORNING	RED DELICIOUS	GOLDEN DELICIOUS	GALA 1
Session I **8:50-9:40 am**	**A Precalculus Breakwater Roundtable: Helping Students Navigate the Waters of Future STEM Success** (1 hour 50 mins, interactive session) Sean Boyd (Tacoma Community College)	**Implementing the "Modernizing Statistics" SBCTC Recommendations** Linda Richard and Lise Trivett (Cascadia College)	**Is Darkness Faster Than the Speed of Light?** Dr William T. Webber (Whatcom Community College)
Session II **9:55-10:45 am**		**From ABE: to College: Transforming Adult Math Education from the Bridge College Model** Dawn Draus, Megan Luce, Sherry McLean, and Laura Wisman (SBCTC)	**High School Mathematics Examinations in East Asia** Salah M. Abed (Big Bend Community College)
Session III **11-11:50 am**	**What Makes Math So FUN: Brain Teasers** Laurie James (University of Hawai'i - West O'ahu)	**Accessibility: Let's All Level Up!** Kate Cook and Allie Dykes (Clark College)	**Creative Mathematicians: What Watercolor Taught Me About Being a College Mathematics Professor** (25 mins) Rebecca Luttrell (Columbia Basin College)
			Developing Math-Focused Web Applications with Generative AI (25 mins) Hoewoon Kim (Columbia Basic College)

FRIDAY AFTERNOON	RED DELICIOUS	GOLDEN DELICIOUS	GALA 1
Session IV **1:30-2:20pm**	**Towards Quantitative Literacy: Interesting Problems in Finance** (1 hour 50 mins, interactive session) Dusty Wilson (Highline College)	**Using Oral Exams in Pos-Pandemic Teaching for Online Classes** Michele Wallace (Green River College)	**AI And Mathematics: A New Paradigm for Instruction** (25 mins) Michael Hurst (Hawkes Learning)
Session V **2:35-3:25pm**		**Q&A Panel: How We Use Oral Exams in Post-Pandemic Teaching** Michele Wallace, Luther Lessor, and Jason Counihan (Green River College)	**ALEKS For Calculus: The Process, the Power, and the Product** (25 mins) Tammy Louie and Eric Ziegler (McGraw Hill)
			Valuations of Pre-A* Algebras (25 mins) Jonnalagadda Venkateswara Rao, (United States International University - Africa, Nairobi, Kenya)

SATURDAY MORNING	RED DELICIOUS	GOLDEN DELICIOUS	GALA 1
Session VI **9:45-10:35am**	**Trolling Students: Why We Should Ask Worse Questions** Jason Counihan (Green River College)	**Math Matters Early: Empowering Future Teachers to Build Strong Foundations** Megan Luce (Cascadia College), Andrea Motyka (Peninsula College), and Catherine Conway (North Seattle College)	**A New Self-Placement Tool** Dawn Draus and David Lippman (SBCTC)
Session VII **10:50-11:40 am**	**The Volume of a Bird Egg** Yves Nievergelt (Eastern Washingon University)	**Modern Solutions for Teaching Calculus: Tools to Boost Engagement and Success** (25 mins) Eric Schulz (Walla Walla Community College)	**The Historical Roots of Statistics in the Eugenics Program at UCL** (25 mins) Helen Burn (Highline College)
		Responding to the Need for Data Scientists in the South Puget Sound: UW Tacoma Proposes a New Statistics and Data Science Major (25 min) Zaher Kmail, Maureen Kennedy, David Arthur, Julia Eaton, Duong (Rita) Than, and Haley Skipper (University of Washington-Tacoma)	**From Calculators to AI: What the Past Can Teach Us About Students' Use of Technology** (25 mins) Marjorie Rasmussen (Bates College)

Session I: Friday 8:50-9:40 am

A Precalculus Breakwater Roundtable: Helping Students Navigate the Waters of Future STEM Success (8:50-10:45)

Sean Boyd

In most of our institutions, MATH& 141 has become the class that makes or breaks future success in STEM mathematics. At first glance, there have been nearly as many attempts at reforming our curriculum to allow more students to reach college-level STEM math quicker; for instance, via corequisite sections, learning communities, and other options. Out of necessity, schools have simultaneously reformed placement procedures, again in many different fashions around the state. Our efforts at TCC have seen a mix of successes (a more diverse group of students have reached college-level STEM classes, and appear to have better success once passing 141) and failures (very high failure rates, seemingly due to misplacement into the curriculum). The intent of this roundtable is to allow involved faculty from our schools to come together and discuss the successes and struggles we've experienced in helping students through this formative period in their education, with the goal of providing us all insight on fine-tuning our school's processes and curricula.

Implementing the "Modernizing Statistics" SBCTC Recommendations

Linda Richard and Lise Trivett

In November, SBCTC published suggestions for Modernizing MATH&146, including exploring real data with statistical software, moving to OER materials, and shifting the focus of topics such as bias, probability, regression, and advanced hypothesis testing. We will facilitate a conversation on how folks are implementing these recommendations. Come share your ideas and questions with your colleagues!

Is Darkness Faster than the Speed of Light?

Dr. William T. Webber

There is a classic related rates problem that asks that we find the speed of a shadow cast by a falling snowflake. The standard solution shows that there are points in time when the shadow would have to be moving faster than the speed of light. Could that be possible, or is something else is happening? Spoilers: it is distinctly something else. I will take you on my journey investigating this problem.

Session II: Friday 9:55-10:45 am

From ABE to College: Transforming Adult Math Education with the Bridge to College Model

Dawn Draus, Megan Luce, Sherry McLean, and Laura Wisman

The Washington State BEdA Math Curriculum Project is developing an Adult Basic Education (ABE) course curriculum inspired by the successful Bridge to College Math high school course. Designed to engage adult learners, this course will foster conceptual understanding, reasoning, and flexible thinking while meeting high school graduation requirements and preparing students for credential-appropriate math pathways. Join us to learn more about the course and how to implement it at your own institution.

High School Mathematics Examinations of East Asia

Salah M. Abed

For two years now, I've used my knowledge of the Japanese language to explore mathematics education in Japan. I've translated and adapted several hundred problems from Japanese college entrance examinations for use in English-speaking classrooms. I've recently branched out into looking into Korea's College Scholastic Ability Test and the Hong Kong Diploma of Secondary Education Examination. I'd like to share with you what I've learned: patterns, themes, methods, and how these problems continue to make me a better mathematician.

Session III: Friday 11-11:50 am

What Makes Math So FUN: Brain Teasers

Laurie James

Have you ever been fascinated by math challenges? This session invites participants to explore the importance of discourse and firsthand experiences in fostering mathematical moments that emphasize the process of engaging with math rather than the final product. As patterns emerge from one brain teaser to the next, participants will analyze potential outcomes and uncover a curiosity to learn the hidden connections. The goal is to spark mathematical thinking and demonstrate effective strategies while making math enjoyable. Participants will leave with an understanding of how mathematical challenges can shift the college classroom focus from direct instruction to a supportive, interactive learning environment. Through active participation and meaningful connections to mathematical patterns, the session will promote deeper engagement. The presenter will guide participants through an activity, addressing common misconceptions and barriers students may face while exploring strategies and problem-solving approaches.

Accessibility: Let's all level up!

Kate Cook and Allie Dykes

Is your class fully accessible to all students on day 1? Learn how and why to take a step or two in that direction right now. Learn tips for Canvas, Docs, lecturing, and course policies.

Creative Mathematicians: What Watercolor Taught me about being a College Mathematics Professor (11-11:25 am)

Rebecca Luttrell

After a sabbatical project unexpectedly turned me towards a new hobby, I found myself becoming a student again and drawing parallels into the learning process along the way. Come enjoy a tour through some interactive activities for Statistics and Quantitative Literacy classes that have changed how I spend my class time with students and have opened up real world engagement as a primary focus in the classes I teach.

Developing Math-Focused Web Applications with Generative AI (11:25-11:50 am)

Hoewoon Kim

This presentation showcases the development of a web application that supports mathematical exploration using generative AI tools like ChatGPT. The project demonstrates how AI can assist in generating code for interactive visualizations, problem-solving interfaces, and computational tools. We discuss the potential of AI to accelerate development, support student learning, and expand access to mathematical concepts through custom-built applications.

Session IV: Friday 1:30-2:20 pm

Toward Quantitative Literacy: Interesting Problems in Finance (1:30-3:25 pm)

Dusty Wilson

Research has shown that Americans are not very savvy when it comes to money matters. Ideally, financial literacy should be integrated across the curriculum. This workshop will introduce problems in finance that all students should experience. Participants will use the finance functions on calculators to assist in the computation.

Using Oral Exams in Post-Pandemic Teaching for Online Classes

Michele Wallace

I will discuss why/how I first did oral exams via Zoom, the expectations, pros/cons, and outcomes (what worked and didn't work), including with ESL students, the second quarter (with improvements), and how I use oral exams now. I will do a demo with volunteers from the audience, and hopefully, I will have time for some Q&A. I will end with mentioning that some colleagues also do similar oral exams but with different set-ups and for different classes.

AI and Mathematics: A New Paradigm for Instruction (1:30-1:55 pm)

Michael Hurst

Explore the impact of modern technology in math instruction with an intelligent, responsibly trained AI Tutor. It provides immediate support and guides students through step-by-step problem-solving when they need it most. Discover how this technology-driven, penalty-free approach reduces anxiety, personalizes learning, and transforms student outcomes. Attend to win one of THREE $25 Amazon gift cards!

Session V: Friday 2:35-3:25 pm

Q&A Panel: How we use Oral Exams in post-pandemic teaching

Luther Lessor, Michele Wallace, and Jason Counihan

Thanks to COVID, several of us began meeting directly with students for assessments. We will share some different ways that we've continued using Oral Exams since then, talk about what went well for us (and what didn't), and answer the follow-up questions you're still curious about!

ALEKS for Calculus: The Process, the Power and the Product (2:35-3 pm)

Tammy Louie and Eric Ziegler

ALEKS, the first adaptive learning platform in mathematics is celebrating 25 years of innovation by launching ALEKS for Calculus. The predictive AI engine that is core to the ALEKS learning system supports students with the individualized remediation to address prerequisite knowledge gaps and the guided support with targeted practice and interactive tools for learning success. Join us to learn more about our development process and how these efforts also enhance the range and depth of our ALEKS PPL and Prep course content.

Valuations of Pre-A* Algebras (3-3:25 pm)

Jonnalagadda Venkateswara Rao

A Pre-A*-algebra is an algebraic system $(A, \wedge, \vee, (-)\sim)$ that generalizes Boolean algebras while satisfying key structural properties such as idempotence, commutativity, associativity, De Morgan's laws, and distributivity. This work explores the concepts of additive and completely additive valuations in Pre-A*-algebras and measure algebras. We establish that a valuation v of a Pre-A*-algebra is additive if and only if $v(0) = 0$. Additionally, we introduce the notion of measurable elements and demonstrate that the set of all measurable elements of a Pre-A*-algebra A forms a Pre-A*-subalgebra of A. Further, we prove that the boundedness of an order-preserving valuation function v on A is equivalent to the boundedness of A. Moreover, we establish that the regularity of valuation functions corresponds to the regularity of any associated measure induced by these valuations.

Session VI: Saturday 9:45-10:35 am

Trolling students: why we should ask worse questions

Jason Counihan

Could our efforts to ask questions clearly and accurately be bypassing the goal of teaching critical thinking skills, which are arguably more important than much of the actual material in our courses? My limited anecdotal evidence suggests this is the case. My solution: bad questions!

Math Matters Early: Empowering Future Teachers to Build Strong Foundations

Megan Luce, Andrea Motyka, and Catherine Conway

By the time students get to middle school they have often already adopted a math identity, which is one reason why their early childhood and elementary experiences are so important. Join math faculty who are currently teaching either Math for Elementary Educators or Math for Early Childhood Educators in a roundtable conversation about those courses and how to make them valuable for future teachers. Join us if you are teaching these courses and ready to share your successes and challenges, or if you are interested in learning more about them and how you can implement them in your own college.

A New Self Placement Tool

Dawn Draus and David Lippman

Many colleges have been shifting to using Directed Self Placement (also called Guided Self Placement), or are considering it. The SBCTC saw the challenges with building a flexible instrument, so collaborated with David Lippman to build a tool that allows designing and delivering a customizable self placement instrument. This session will show off the editing tool, and a couple examples of how colleges have used it to create a self placement aligned with their needs.

Session VII: Saturday 10:50-11:40 am

The Volume of a Bird Egg

Yves Nievergelt

In 2002 in the journal The Auk (now re-named with the much more scholarly title Ornithology), Douglas E. Baker displayed an integral formula that could be presented in Calculus I or II for the volume of an avian egg, adding ``This volume formula is not integrable in closed form.'' The talk will present not just one, not just two, but at least three closed forms. The techniques of integration might not fit in Calculus I or II, but they are typical of lower division calculus courses intended for students majoring in mathematics or physics elsewhere in the world.

Modern Solutions for Teaching Calculus: Tools to Boost Engagement & Success (10:50-11:15 am)

Eric Schulz

* Leverage interactive figures (approximately 750 calculus and 350 precalculus ifigs), along with newly available 3D printable versions for a subset of the figures, to engage students in learning calculus and precalculus concepts.

* Feeling swamped by general purpose AI-driven bots? Pearson has developed AI-powered tools, deployed in MyLab, that have been trained on our calculus materials. A brief demonstration will be presented.

The Historical Roots of Statistics in the Eugenics Program at UCL (10:50-11:15 am)

Helen Burn

This talk explores the development of statistics within the eugenics program at University College London in the early 20th century, based on archival research conducted in fall 2025. It aims to equip faculty with strategies for effectively addressing this history in Introductory Statistics courses.

Responding to the Need for Data Scientists in the South Puget Sound: UW Tacoma Proposes a New Statistics and Data Science Major (11:15-11:40 am)

Zaher Kmail, Maureen Kennedy, David Arthur, Julia Eaton, Duong(Rita) Than, and Haley Skipper

The need for increased degree production in statistics and data science has been widely documented in recent years. Industries across sectors rely heavily on data analytics and our community partners have communicated their need for data scientists who have a strong foundation in theoretical statistics as well as applied skills working with real data and algorithms. The proposed Bachelor of Science (B.S.) degree program in Statistics and Data Science at the University of Washington Tacoma (UWT) will help to fill a clearly needed gap in statistics and data science degree programs in the South Puget Sound. Housed in UWT's School of Interdisciplinary Arts and Sciences, this new program provides a strong foundation in the theory and application of statistics and data science. It will provide students with fundamental knowledge and skills related to probability, mathematical statistics, experimental design, data analysis, data management, and statistical computing, including machine learning and Bayesian statistics. Through a combination of coursework and consulting experiences, students will develop the skills to design experiments, analyze real-world data, communicate results with stakeholders and, most importantly, develop the critical and theoretical framework to understand the logic underpinning those designs. Equipped with this theoretical and practical knowledge, graduates will be well-positioned for careers in industry as well as to continue with graduate degree programs. Curriculum offerings and program pathways will be presented, with a focus on how UWT's B.S. in Statistics and Data Science will support transfer students from local institutions.

From Calculators to AI: What the Past Can Teach Us About Students' Use of Technology (11:15-11:40 am)

Marjorie Rasmussen

When calculators became commonplace in the public sphere, math educators were divided. Would this tool stunt foundational skills, or could it be a springboard to liberate us from routine computations and encourage higher orders of thinking? In this talk, we will explore the history of the affect of calculator use in the classroom and draw thoughtful parallels to the opportunities and pitfalls of AI in the hands of our math students.

Rather than attempting to police AI out of the classroom, this talk aims to reframe the conversation: how can we help students use these tools meaningfully and ethically? How could learning outcomes, assignment designs, and curricula evolve to keep pace with technology?

Join us for a practical and reflective discussion about where we've been—and where we're headed—as technology continues to reshape how students learn math.

Registrants

Bates Technical College
Marjorie Rasmussen

Bellingham Technical College
Linda Hegeberg
Andrea Johnson
Calhan Ring

Bellevue College
Ricardo Chavez
Sandra Emerson
Jennifer Laveglia
Andria Villines

Big Bend Community College
Salah Abed
Jada Addink
Jonathan Bauer
Kristy Bishop
Sarah Moore
Michele Ramirez
Nicole Wallace
Tyler Wallace

Cascadia College
Megan Luce
Linda Richard
Lise Trivett
Steve Yramategui

Cengage
Lisa Blair
Amanda Carr
Morgan Jones
John Seyal

Centralia College
Preston Kiekel

Clark College
Kate Cook
Allie Dykes

Columbia Basin College
Alex Anderson
Meg Bartrand
Robert DeLorto
Hoewoon Kim
Rebecca Luttrell
David Mackay
Jesna Nissam
Martijn Oostrom
Ryan Orr
Melody Smiley

Eastern Washington University
Yves Nievergelt

Edmonds College
Mary Anderson
Pat Averbeck
Catherine Conway
Jeff Eldridge
Terry Goldstick
Melissa Hope
Tiffany Ledford
Deann Leoni
Nancy Marx
Gabrielle McIntosh
Uzair Muhammad

Everett Community College
Debby Casson
Sharon Moore
Mike Story
Raksmey Sun

Green River College
Allison Beckwith
Steven Black
Jason Counihan
Sarah Edwards
Luther Lessor
Rochelle Mitchell
David Nelson
Shelley Pahlow
Jeremy Upsal
Julissa Valenciano
Michele Wallace

Highline College
Helen Burn
Shane Kibler-Trimboli
KhoiNguyen Nguyen
Michael St John
Dusty Wilson

Lake Washington Institute of Technology
Sherry McLean

Lower Columbia College
Lori Babbick

Olympic College
Elisabeth Briggs
Elizabeth O'Neil

Peninsula College
Andrea Motyka
Tamara Smith

Renton Technical College
Brian Green
Adela Saenz

SBCTC
Dawn Draus
MarcusAntonio Gunn
Katelynn Orellana

Shoreline Community College
Steven Bogart
Silvia Ghinassi
Tatiana Rudneva
Trevor Pelletier
Lauren Sandven
Marek Wyzgowski

Skagit Valley College
Khai Le
Laura Wisman

South Puget Sound Community College
Emily Boyce
Richard Dahlen
Maia Langenberg
Julia Trude
Lindsey Witcosky

Spokane Falls Community College
Ashlee McQueen

Tacoma Community College
Sean Boyd
Jack Lelko

University of Hawai'I, West O'ahu
Laurie James

University of Washington
Charles Camacho

University of Washington, Tacoma
David Arthur
Zaher Kmail
Haley Skipper
Duong (Rita) Than

USIU Africa
Venkateswara Rao Jonnalagadda

Walla Walla Community College
Halley Mccormick
Chris Mehl
Eric Schulz

Wenatchee Valley College
Sharon Wiest

Whatcom Community College
Jody DeWilde
Kourosh Ghaderi
Leslie Glen
Will Webber

Yakima Valley College
Diana Petty

Conference History

The first Washington State Community Colleges Mathematics Conference and Retreat was held in 1969. The organizers were Phil Heft, Jim Reif, Larry Larson, and John Van Duff. We are told that the per–person cost at the time was $16.68 and that 33 people attended the conference. It was held at “The Lodge” at Ashford where accommodations required sleeping bags. The menus for the first banquet as well as the name of the first guest speaker remain unsolved mysteries. Today's retreats, usually referred to as Spring Math Conferences, involve more than 200 mathematicians from both two and four–year colleges. There are usually a few invited talks, but the bulk of the program is contributed by inspired volunteers. Responsibility for conference planning is passed among the 34 Washington community colleges. There's no particular formula for who hosts when; and there is no set location where the meetings are held. As if by magic, volunteers appear (usually a few years in advance) and destination meeting sites are found in the Cascade Mountain corridor, on the Olympic Peninsula, or in the Columbia Gorge. There is a traveling fund, the Washington State Math Conference Foundation that helps the host institution with start–up costs.

1969	Green River, Highline, Ft. Steilacoom	1989	Bellevue	2009	Columbia Basin
1970	Spokane Falls	1990	Clark	2010	Yakima
1971	Everett	1991	Pierce, Tacoma	2011	Green River, ORMATYC
1972	Everett	1992	Yakima	2012	Tacoma
1973	Seattle Central	1993	Highline	2013	Whatcom
1974	Green River	1994	South Seattle	2014	Everett, Shoreline
1975	Highline	1995	Skagit Valley, Whatcom	2015	Bellevue
1976	Bellevue	1996	Spokane Falls, ORMATYC	2016	Clark, ORMATYC
1977	Shoreline	1997	Green River	2017	Highline
1978	Edmonds	1998	Tacoma, Big Bend	2018	Edmonds
1979	Olympic	1999	Edmonds	2019	Centralia, Bates
1980	Spokane Falls	2000	Bellevue	2020	Cancelled
1981	Spokane Falls	2001	Peninsula, ORMATYC	2021	WAMATYC
1982	Highline	2002	Clark	2022	WAMATYC
1983	Olympic	2003	Spokane, North Idaho	2023	Pierce
1984	Green River	2004	Pierce	2024	Clark, ORMATYC
1985	Shoreline	2005	Highline	2025	Green River
1986	North Seattle	2006	Olympic, ORMATYC	2026	?
1987	Lower Columbia	2007	Wenatchee Valley		
1988	Olympic	2008	North Seattle		

(not so) Challenging Problems

Sources include: AMS Daily Epsilon of Math Calendar 2025, questions inspired by Student Math League questions, WSMC Math contest problems form the early 1980s, and a couple of uncredited handouts in a file folder labeled "Problems" that David Nelson found in his desk.

1. $\sqrt{\frac{26!-25!}{24!}}$

2. If $f(x) = ax^2 + bx + c$ and $f(-3) = f(5)$, find $\frac{f(2)-f(7)+f(-5)}{f(4)-f(-2)-f(0)}$

3. $\frac{\frac{2+2+2}{\frac{2+2}{2}}}{\frac{4}{\frac{2+2}{2+2+2}}}$

4. Find the area of the largest rectangle possible with sides of integer length and a perimeter of 82.

5. Find the area of a right triangle with a hypotenuse of 3 whose legs differ in length by 1.

6. If $3\sin(\theta) + 4\cos(\theta) = 5$, find $5\sin(\theta) + 5\cos(\theta) + 3\cot(\theta)$

7. Find $\sum_0^\infty \frac{2n+1}{2^n}$

8. Find the largest solution of $(25 - 2y)^{(y^2-25)} = 1$

9. How many three-digit numbers are there in base 3?

10. A railroad car is loose on a siding and rolling with a constant speed of 8 miles per hour. A switch engine dispatched to catch it has a maximum acceleration of 3 feet per second squared, a maximum deceleration of 5 feet per second squared, and a maximum speed of 45 miles per hour. Determine the minimum distance required to catch the runaway car, assuming the switch engine starts from rest when the car is 500 feet down the track and that the relative velocity when the engine catches the car must be less than 3 miles per hour.

11. How many terms are there in the expansion of $[(x + 3y)^2(x - 3y)^2]^2$, after collecting like terms.

12. Two cyclists are racing on a circular track but are moving in opposite directions. Their speeds are 15 ft/sec. and 21 ft/sec. They start at the same time and place, and finish when they simultaneously meet at the starting point again. Excluding the start and the finish, how many times will they pass each other during the course of the race?