

Washington State Two-Year College Math Conference







Yakima Convention Center



12-47-41 Basedmann Seating for 12

WS2YCMC 2002 PROGRAM

Date	Time	Event
Thursday, April 11	1:00 pm—5:00 pm	Preconference Workshop
	5:30 pm—7:30 pm	Registraton
	7:30 pm—8:30 pm	Opening Speaker
		Paul Casillas
	8:30 pm—10:30 pm	Social Hosted by Thomson Learning
Friday, April 12	7:00 am—8:30 am	Breakfast Buffet
	7:30 am—8:30 am	WAMATYC Annual Meeting
	8:45 am—11:15 am	Publishers' Exhibits
	9:00 am—10:00 am	Session I Presentations
	10:00 am—10:30 am	Beverage Break
	10:30 am—11:30 am	Session II Presentations
	12:00 pm—1:00 pm	Lunch
	1:30 pm—2:30 pm	Session III Presentations
	2:30 pm—3:00 pm	Beverage Break
-	3:00 pm—3:30 pm	Session IV Presentations
	3:30 pm—3:45 pm	Beverage Break
	3:45 pm—4:15 pm	Session V Presentations
	3:00 pm—6:00 pm	Field Trip
(6)	6:45 pm—7:30 pm	Dinner
	7:30 pm—8:30 pm	Keynote Speaker Duane DeTemple Social Hosted by
	8:30 pm—10:30 pm	Prentice Hall
Saturday, April 13	7:00 am—8:30 am	Breakfast Buffet
E 200	9:00 am—10:15 am	Session VI Presentations
	10:15 am—10:30 am	Beverage Break
	10:30 am—11:30 am	Session VII Presentations
	11:45 am	Checkout/Box Lunch and Departure

Conference Rooms

Time/Room	Н	G	F	В
9:00 - 10:00	(Carlea McAvoy)	(Mike Kenyon)	(Dan Schapiro)	(Louise Hoover)
	6) Will Webber	8) Donnie Hallstone et. al.	4) Frank Wilson	13) Sasha Malinsky
9	On-Line Resources With Live Math	Fantastic Jurassic Growing Dinosaurs	Designing Classroom Activities/Real Life Data	Various Proofs of the Pythagorean Theorem
10:30 - 11:30	(Mike Kenyon)	(Tom Reifenrath)	(Kristine Barker)	(Yves Nievergelt)
	16) Doug Mooers	1) Stephen Lane	7) Ted Coskey	21) Marji Vittum- Jones
	On-Line Math Center At Whatcom CC	Writing Equations Using Microsoft Word	Sabbatical Program at University of Washington	Building Conics, Hands-on Collaborative Activity
1:30 – 2:30	(Doug Mooers)	(Donnie Hallstone)	(Doug Solowan)	(Marji Vittum- Jones)
	17) Carlea McAvoy	2) Joe Wilcox	25) Shana Calaway, Greg Harbaugh, David Nelson	14) Yves Nievergelt
	On-Line Developmental Math	Folk Wisdom/ Applied Problems	Learning Outcomes for 20 th Century Statistics	Presentation of Math Workshop Results
3:00 - 3:30	(Yves Nievergelt)		(Dennis Watson)	(Wes Orser)
	12) Jane Lane		9) Greg Harbaugh	5) Frank Rafie
	Creating a Culture of Collaboration Among Dev. Math Teachers		Math in the Cinema	Quantum Model of Atoms
3:45 – 4:15	(Bill Monroe)		(Tanya Rivers)	(Aaron Bingham)
HICK-NI CONTRACTOR	20) Kathy Maclean		15) Burl Fabianek	28) Gail Nord
	Keys to Student Success In Developmental Math		Why The Mariners Won Too Many Games	Fun With the Golden Ratio

The person in parentheses is the presider, the person in bold is the presenter. To see an abstract of the talk, look up the presenter by number on the following pages.

Conference Rooms

Time/Room	H	G	F	В
9:00 - 9:30	(Doug Mooers)	(Tracy Nehnevaj)		(Paul Casillas)
	22) Jeff Crabill	18) Dave Buchthal		19) Cal Clawson
	Success in	Assessment Rubric		Ramanujan and the
	Developmental	for Science and		Golden Mean
	Math/ Computer	Math		
	Env.			
9:00 – 10:00			(Louise Hoover)	
			23) Branko Curgus	
	1.		Visual Integration	
9:45 – 10:15	(Burl Fabianek)	(Ray Burns)		(Mark Elliott)
	3) Tanya Rivers	10) Mike Kenyon		24) Doug Solowan
	Experimental Demo	Portfolio		Mathematical
	Using CBL	Assessments In		Musings On
		Liberal Arts Math		Musical Tuning
				Systems
10:30 - 11:30		(Ray Burns)	(Donnie Hallstone)	
323341		27) Laura Bracken	11) Steven Black	
		How Did My	Typesetting	
		Students Ever Pass	Beautiful Scientific	
	8	Their Last Class?	Documents with	
			LaTeX	
10:30 - 11:00	(Bill Monroe)			
	26) David			
	Lippman			
	Alternative Online			
	Math Course for			
	Liberal Arts			

The person in parentheses is the presider, the person in bold is the presenter. To see an abstract of the talk, look up the presenter by number on the following pages.

Abstracts

 Presenter: Stephen Lane; Big Bend Presider:

Title: Writing Equations in MS Word: Enhancements and Advantages

Abstract: Users of MS Word commonly use Equation Editor create equation for Word documents. An alternative method for entering equations (field codes) which offers numerous advantages. This presentation will show you how to use field codes to write equations and demonstrate how and when this approach is

preferable to Equation Editor.

2) Presenter: Joe Wilcox, Highline

Presider: Donnie Hallstone, Green River

Title: Applied Problems and Folk Wisdom in Adventure

Abstract: Mostly basic concepts with a few subtle ideas. Why can't a 48-mile range radar detect a freighter in the Straits of Juan de Fuqua only 20 miles away? Why don't hurricanes cross the equator? Why does the Weather Service double its winds aloft measurements when predicting winds on Mount McKinley? How can one crude observation and one accurate measurement determine if two boats are on a collision course? A selection of topics and folk wisdom from decades of adventure.

3) Presenter: Tanya Rivers

Presider: Burl Fabianek, Western Washington

Title: Investigating Exponential Functions using the TI-83 with Motion Tensor and Temperature Probe

Abstract: The TI-83 with CBL motion sensor and temperature probe will be used to examine the differences between linear and exponential functions and to collect data for analysis in a project dealing with the hot coffee

controversy.

 Presenter: Frank Wilson, Green River Presider: Dan Schapiro, Yakima Valley

Title: Making It Real: Designing Classroom Activities Based on Real-Life Data

Abstract: Students frequently complain that there is little connection between the mathematics we teach and their everyday lives. As educators, it is our responsibility to help them make the connection. In this workshop, we will share specific classroom activities that require students to use mathematical skills to interpret relevant real life data. A compilation of data sources will be provided for attendees.

 Presenter: Frank Rafie, Cascadia Presider: Wes Orser, Clark College

Title: The Quantum Model of Atoms: The Energy Levels of Atoms

Presenter: Dr. William T. Webber, Whatcom Presider: Carlea McAvoy, South Puget Sound

Title: Using LiveMath in the Community College Classroom

Abstract: Over the last 3 years the presenter has created an on-line library of files that can be used for classroom demonstrations, for a homework/study aid, or for a resource for mathematical projects or investigations. The files were created using the software "LiveMath Maker," but require only a browser to interact with. The library contains interactive files from all levels of the community college math curriculum, including an on-line graphing calculator. The intent of the presentation is to show how this on-line resource can be used by instructors and students alike.

7) Presenter:

Ted Coskey, South Seattle

Marina Frost, Clark College

Dale Hoffman, Bellevue

Presider: Kristine Barker, Clark College

Title: The Community College Educator's Sabbatical Program

Abstract: The Community College Educators' Program lets CC mathematics faculty spend a sabbatical year in the UW Mathematics Department. This has been the first year of the program and we are the first participants. We'll discuss out experiences in the program, in the department, and teaching precalculus and calculus at the UW. There will be time for questions.

8) Presenter:

Donnie Hallstone, Green River

Laura Moore-Mueller, Green River

Joyce Hammer, Green River

Presider: Mike Kenyon, Yakima Valley

Title: The Fantastic Jurassic: Growing Dinosaurs in the Math Classroom

Abstract: Student often have trouble with concepts of measurement. The "Gro-Beasts" project challenges students to measure and quantify changes in length, area, volume, mass and density using growing dinosaurs. We will demonstrate the project and how to implement it into algebra and geometry classrooms.

Presenter: Gregg Harbaugh, Cascadia
 Presider: Dennis Watson, Clark College

Title: Math in the Cinema: Assessing Learning Outcomes

Abstract: Student presentations for an intermediate algebra assignment called

_Math_In_The_Cinema_ will be show-cased. The grading rubric for this assignment will be presented, along with the creation process, the benefits provided to the students, and attributes of the rubric that make it flexible enough to be used at any level of mathematics.

10) Presenter: **Mike Kenyon**, Yakima Valley Presider:

Title: Portfolio Assessments in Mathematics

Abstract: Two years ago, I began using problem-solving portfolios as my main end-of-course assessment in my liberal arts math class. I will talk about the components of my portfolios, some pros and cons of using them, and how I evaluate them. Copies of my handouts, including evaluation rubrics, will be available, as will samples of student portfolios (the best examples, of course).

Presenter: Steven Black, Green River
 Presider: Donnie Hallstone, Green River

Title: Typesetting Beautiful Scientific Documents with LaTeX

Abstract: LaTeX is a state-of-the-art typesetting package and is widely regarded as the de facto standard for the publication of scientific documents. For many years, LaTeX was available only on Unix based operating systems and was not a viable option for the "average" mathematician or physicist. At long last, LaTeX has been developed for Windows and is now available as free-ware. In this presentation, I will provide a history and description of LaTeX, demonstrate it's power and elegance in the typesetting of mathematics (both for publication and in the classroom), and finally, give explicit directions on how to obtain the latest and best implementations of the platform.

12) Presenter: Jane Lane, Cheney

Presider: Yves Nievergelt, Eastern Washington University

Title: Creating a Culture of Collaboration Among Developmental Math Teachers

Description: Many Developmental Mathematics teachers are frustrated with the amount of time it takes for their students to learn the study and content skills necessary to be successful in mathematics. During this session, we will examine principles of creative cooperation practiced by many business managers as they motivate their employees to greater productivity. Teachers working together have greater impact in maintaining high academic standards, motivating students to study for understanding, and serving as a model in the academic community.

13) Presenter: Sasha Malinsky, Bellevue Presider: Louise Hoover, Clark College

Title: $A^2 + B^2 = C^2$: How Some Have Seen It Through the Ages.

Abstract: A number of proofs of the so-called "Pythagorean Theorem" will be presented. Comparisons between the interpretations of the problem and subsequent proofs will be discussed. A number of related results will also be discussed.

14) Presenter: **Yves Nievergelt**, Eastern Washington University Presider: *Marji Vittum-Jones*, South Seattle

Presider: Marji Villum-Jones, South Seattle

Title: Presentation of Findings from Preconference Workshop

Abstract: Participants in Thursday's workshop on "How (Not) To solve Quadratic Equations" will present the instructional material they designed"

15) Presenter: **Burl Fabianek**, Western Washington Presider: *Tanya Rivers*, Western Washington

Title: "Why the Mariners won too many games in 2001."

Abstract: Data analysis using a TI-83 graphing calculator. A project using Major League Baseball results (1999-2001) to find a linear model that predicts the number of wins a team should expect given the number of runs a team gives up and the number of runs scored. This project is adaptable to any course using data to investigate linear functions.

16) Presenter: Doug Mooers, Whatcom Presider: Mike Kenyon, Yakima Valley

Title: Online Resources for the Classroom: Whatcom Community College's Online Math Center

Abstract: A FREE online resource for teachers, students, and anyone interested in mathematics. Student help sites, professional organizations, current research in mathematics (worldwide), puzzles, games, applications of math to many fields. Real data at your fingertips that you can key into your calculator. Information and programs for HP, Casio, and Texas Instrument calculators. A wealth of math materials in the Library. LiveMath (registered) demonstration files in 2 and 3 dimensions available with a free plug-in download. The site was developed through a Title III grant.

17) Presenter: Carlea McAvoy, South Puget Sound Presider: Doug Mooers, Whatcom

Title: Using Games to Review Basic Math Concepts:

Abstract: Basic math students need lots of review to cement the material in their minds. A number of games will be presented that make "review day" fun for the students. These games require the students to apply their new-found knowledge of mathematics to fun and interesting problems. Most of the games take between 5 and 15 minutes, so the students can play more than one game in a day and thus review several skills. Participants will play 4 or 5 games and share ideas.

18) Presenter:

Dave Buchthal, Cascadia Sharon Sexton, Cascadia Gregg Harbaugh, Cascadia

Presider:

Title: Assessment Rubric for Science and Math: "Why Do We Do the Things We Do?"
Abstract: How do you assess your mathematics and science courses? If your students asked you what they had to do to get a good grade on a project, a take-home assignment, or a collaborative endeavor, what would you tell them? We will begin with a presentation of our working model of an assessment rubric and then follow with the sharing of participants' examples. Come prepared with your rubrics, ideas, and open mind.

19) Presenter: Cal Clawson, Bellevue/South Seattle

Presider: Paul Casillas, Clark College

Title: Ramanujan and the Golden Mean

Abstract: The Golden Mean is a constant which has intrigued and entertained both professional and amateur mathematicians for centuries. The ancient Greeks referred to it as phi and incorporated the ratio into some of their buildings. Artists have used the Golden Mean to give balance to their paintings. The Mean has been discovered in such diverse forms as the Fibonacci sequence, infinite continued fractions and infinite nested radicals.

Srinivasa Ramanujan (1887-1920) was the young self-taught mathematical genius Hardy invited to England from his native India. Ramanujan's work, contained in four notebooks, includes several thousand original theorems and identities. Was Ramanujan aware of the Golden Mean? Did he ever incorporate it into his wonderful identities? Stay tuned.

20) Presenter: **Kathy Maclean**, Clark College Presider: *Bill Monroe*, Clark College

Title: Reaching the Underprepared College Student

Abstract: Are you teaching middle school math to students over 18? How do you rise to the challenge? Let's look at some strategies to help assure student success in this vital portion of our student population.

21) Presenter: Marji Vittum-Jones, South Seattle

Presider: Yves Nievergelt, Eastern Washington University

Title: Building Conics

Abstract: This will be a sharing of a hands-on, collaborative activity for pre-calculus students. The step-by-step process to build each of the conics on the classroom walls will be shown. The temporary addition to the décor of your room will then be measured so as to develop the algebraic equations for each. (Handouts provided.)

22) Presenter: Jeff Crabill, Everett Presider: Doug Mooers, Whatcom

Title: Success in Developmental Math In the Computer Mediated Environment

Abstract: At Everett Community College, the math department began teaching a few sections of developmental mathematics in a computer-mediated environment. We began this as a pilot program for Intermediate Algebra in Spring 2000 and then added sections of Basic Mathematics. It has been two years since we began the program and we have learned a bit about developmental math students, study skills, and the importance of alternative modes of instruction from both the student and faculty points of view. This session will focus on what we have learned the last two years and where we want to go in the future.

23) Presenter: Branko Curgus, Western Washington Presider:

Title: Visual Integration

Abstract: We will show several examples of integrals that can be evaluated using only geometric reasoning. The geometric reasoning provides a visual "proof" for the convergence of the corresponding sequences of Riemann sums.

24) Presenter: **Doug Solowan**, South Seattle Presider: *Mark Elliott*, Clark College

Title: Mathematical Musings on Musical Tuning Systems

Abstract: As an very brief example of the role many technical fields play in the arts, we will look at the relationship between the way notes are tuned in musical scales and the natural harmonic series. Many choices have led to the "equal-tempered" scale currently used in Western music, even though many of the compositions we hear in recordings and live performance were originally written in differently-constructed tuning systems. There will be some very brief comparison/contrasts between several tuning systems, and I hope to be able to provide some sound examples of the impacts of some of these choices.

25) Presenter:

Gregg Harbaugh, Cascadia

Shana Calaway, SCC David Nelsen, Green River

Presider:

Doug Solowan, Seattle Community College

Title: Learning Outcomes for the 21st Century Introductory Statistics Class, A Roundtable Discussion

Abstract: The objective of the session is to produce a (working) list of learning outcomes appropriate for students leaving an introductory statistics class. A secondary objective would be to brainstorm how best to utilize this list across the campuses represented in the discussion. Request for the participants: Please bring any projects or assessment tools you would like to share with other instructors interested in statistics.

26) Presenter: David Lippman, Pierce

Presider:

Title: Alternative Online Course for Liberal Arts Mathematics

Abstract: A new online Math for Liberal Arts course motivated by the COMAP text will be discussed. The talk will detail motivation for development and goals of the course, including use of higher-level math skills. Come to learn about the project and offer your suggestions.

27) Presenter: Laura Bracken, Lewis and Clark State College Presider: Ray Burns, Clark College

Title: How Did My Students Ever Pass their Last Class?

Abstract: Some developmental math students may pass a prerequisite class but do not know enough to succeed in their next class. Why? Our assessment design and criteria may be part of the reason. We'll talk about some assessment strategies that can minimize passing students that can't do much and how to use these assessments in institutional assessment programs.

28) Presenter: **Gail Nord**, Gonzaga University Presider: *Aaron Bingham*, Clark College

Title: Fun With the Golden Ratio

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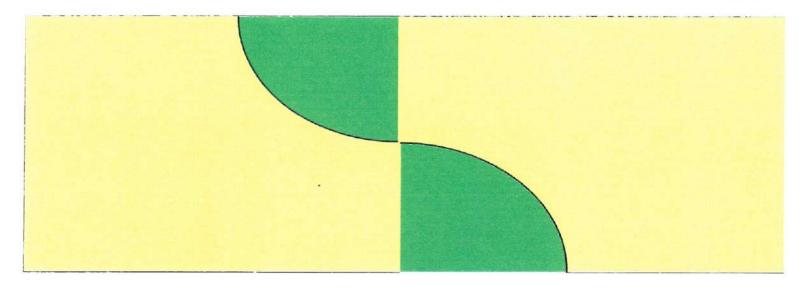
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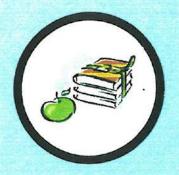
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