



TCU Math Newsletter

The truth always turns out to be simpler than you thought.

- Richard Feynman

“The Mathematics of Fourth Down” with a Special Appearance by Coach Gary Patterson on Wednesday, April 13

It's fourth down and short in the middle of the football field. You're the football coach — what do you do? Go for it? Punt? Pawn the decision off on one of your assistant coaches? Surprisingly, if you are a football coach with some knowledge of mathematics, this might affect your decision. Professor Efton Park will present the talk “The Mathematics of Fourth Down,” in which he discusses what mathematics has to say about fourth down decisions. We will also get some comments from a real expert — TCU football coach Gary Patterson, who plans to attend!

The talk will be on Wednesday, April 13 at 3:30 pm. Refreshments will be available at 3:00 pm in TUC 139 before the talk, and the talk will be in the same room. All students, faculty, staff, and other interested members of the community are invited to attend.

Frank Stones Colloquium Talk

Professor Ye-Lin Ou from Texas A&M University will present the talk “On the geometry of biharmonic maps” at 3:30 pm on Friday, April 8 in TUC 243. Refreshments will be served at 3:00 pm in TUC 300.

TCU Calculus Bee on Tuesday, April 19

The annual TCU Mathematics Department Calculus Bee will be held on Tuesday, April 19 at 3:30 p.m. in Tucker Technology Center 244. Refreshments for the contestants will be served at 3:00 p.m. in TUC 300.

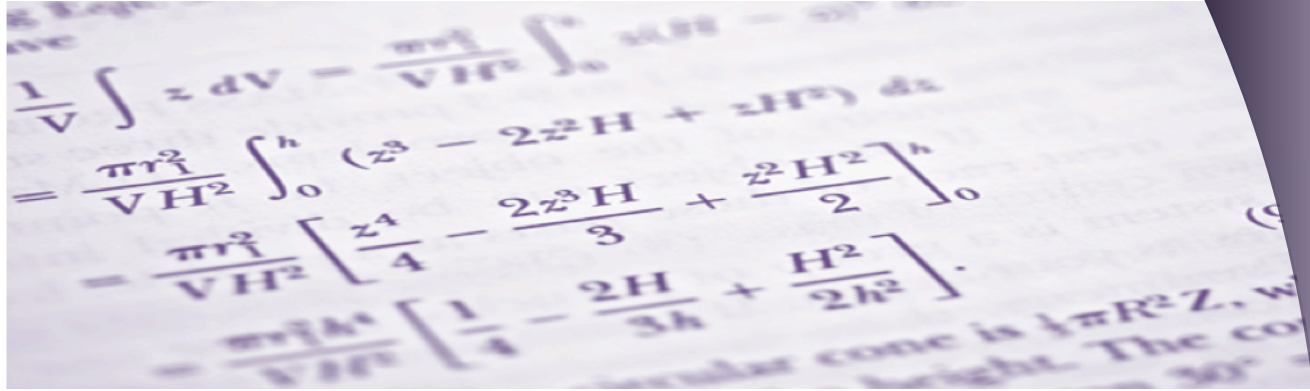
All TCU undergraduates are eligible to compete. Prizes will be awarded to the top three finishers, with \$75 for first place, \$50 for second place, and \$25 for third place.

Students wishing to compete in the Calculus Bee should sign up in the Mathematics Department office in TUC 206. While there is no deadline for signing up, we would like to know who is participating as soon as possible.

Math Majors Honored

Melissa Lorber has been named the 2011 Mathematics Department Senior Scholar. The winner of the award is determined by the Mathematics Department Faculty.

Two TCU mathematics majors were invited to join the prestigious national honor society Phi Beta Kappa. Sara Valaitis and Cara Smith were honored with invitations and will be initiated into membership in May 2011.



Solution to the March 2011 Problem of the Month

Problem: Alice, Bob, and Charlie play tennis matches consisting of one set only: two of them play a set and the winner stays on the court for the next set, with the loser replaced by the player who was idle. At the end of the day Alice played 15 sets, Bob played 14 sets, and Charlie played 9 sets. Who played in the 13th set? (Dick Hess)

Solution: The total number of sets played was $(15+14+9)/2=19$. Because each player plays in at least every other set, Charlie must have played (and lost) exactly in each even-numbered set. Thus, Alice and Bob played in the 13th set.

April 2011 Problem of the Month

This month's problem puts you into the role of problem creator. Is there a cubic polynomial that has three distinct integer roots, critical points at two distinct integers, and an inflection point at an integer?

Students and others are invited to submit solutions to Dr. George Gilbert by e-mail (g.gilbert@tcu.edu) or hard copy (Math Dept. Office or TCU Box 298900). Correct solutions submitted by persons who are not members of the TCU math faculty will be acknowledged in the next issue of the newsletter. Note that a correct solution is an answer and a justification of its correctness. The solution to the problem will be published in the next edition of the newsletter.