



FOCUS ON MATHEMATICS

ONLINE COURSE – SUMMER 2008 – BEGINNING JUNE 2008

MATHEMATICAL PROBLEM SOLVING

HIGHLIGHTS!

Outline for
13-Week Course

Overview and MAA
Problems

Consecutive Sums,
Problem Posing

Conjectures,
Habits of Mind

Proofs, Technology

Do-it-Yourself, Socio-
Mathematical Norms

Classroom Applications,
Control in Problem
Solving

Statistics and Problem
Solving

Pythagoras and Listening

Puzzling Out Some
Proofs, Low-SES
Students

Pythagoras' Second
Cousins, Problem Posing

Pythagorean Triples,
Problematizing Your Own
Curriculum

Classroom Cousins of
Pythagoras, Assessment

Wrap Up

GOALS

1. Make students aware of the role of problem solving in mathematics and mathematics education. In particular, students will become aware of how problem solving is integrated into state, national and international standards for mathematics education.
2. Help participants investigate ways in which their own students' problem solving abilities can be enhanced using their curriculum. Although we will not look at curricula in depth, one should become capable of assessing the degree to which curricula address the state problem solving standards.
3. Improve one's own problem solving ability through working on problems. Students will work on a variety of different problems, including at least one that they will work on for most of the semester.
4. Prepare to work with colleagues in order to replicate as much of this course as is feasible in each participant's own district.

REGISTRATION INFORMATION

REGISTER NOW! CLASS BEGINS JUNE 1 (+/- a day or two)!

There is no registration fee for teachers in *Focus on Mathematics* districts. Registration in *Focus on Mathematics* partner districts will be approved and confirmed through each district leader.

Completion of the course will qualify participants for 3 undergraduate credits or 75 PDP's.

To register, first request district approval, then go to
<http://faculty.uml.edu/klevasseur/fomonline/>

If any difficulties are encountered while registering, please contact Ken Levasseur at 978-934-2414 or Kenneth_Levasseur@uml.edu **REGISTRATION DEADLINE IS April 30 !**

PREREQUISITES

- Routine home access to the Internet
- Familiarity with the content of K-12 mathematics

It is expected that participants will arrive with a variety of mathematical backgrounds. Thus, the goal of improving one's problem solving ability is relative and this course is applicable to all "initial conditions." Still, all participants will work hard and be challenged in order to deepen their understanding of problem solving.

INSTRUCTOR

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