

**The 68th Annual
William Lowell Putnam Mathematical Competition Exam**

will occur on

Sat. 1 Dec. 2007, 7:45 - 11 am. and 12:45 - 4 pm.

At U.C. Berkeley it will take place in Rm. 150 of the Goldman School
at the north-east corner of Hearst and LeRoy Aves. Enter from LeRoy at street level.

Every contestant here must pre-register with the exam's proctor here,

Prof. W. Kahan (e-mail address
Mathematics Dept. #3840 (obfuscated below.)
Evans Hall
Univ. of Calif. at Berkeley (510) 642-5638

supplying Name, Student ID#, Status (sophomore, junior, senior, exchange), Major, and an e-mail address (or at least a phone number) to reach you. The pre-registration deadline was **Tues. 9 Oct.** A few later contestants for the exam may be accommodated only in place of pre-registrants who fail to show up in time.

Would-be contestants were invited to take a test that was administered
Mon. 1 Oct. in 71 Evans Hall
to help us select the team that will represent U.C. Berkeley in the competition.
Now see a Math. H90 web page for the test's problems and their solutions.
Scores achieved in this test will not be counted against anyone's course grades.

In 2001 and 2002 our teams ranked fourth, and were rewarded.

For more detailed instructions and information see a Math. H90 web page:

<http://www.cs.berkeley.edu/~wkahan/MathH90>
<http://www.math.berkeley.edu/~serganov>

Contestants will have to bring their student ID card or other picture ID and evidence of student status that can be checked before the exam begins, but **bring no books, papers, calculators, computers nor communications devices.**

Prof. W. Kahan's e-mail address,
obfuscated to hinder collection by spammers (omit arithmetic operators etc.)
W+K-A*H-A+N at E*E+C*S d0t B-E+R*K=E*L+E-Y d0t E*D*U

Prof. Vera Sergonova's e-mail address:
s*e-r+g/a^n|o=v at m^a/t-h d0t b-e+r+k*e=l-e/y d0t e/d-u

About the Putnam Exam and Competition

This exam is intended to test originality as well as technical competence, though students with enriched mathematical backgrounds due to independent study or participation in Mathematics Clubs are better prepared for the exam than are students who are taking the minimal courses required for Engineering, Science and Math. majors. Exam questions typically cut across the boundaries of college courses, ranging over topics like Probability, Groups, Fields, Rings, Geometry, Number theory, Infinite sets and cardinals, Graph theory, Lattices, Differential equations, Metric spaces, Topology, Combinatorics, Inequalities, Formal proofs, For an idea of what to expect see a few recent years' Putnam Exams in a book from the Math. Assoc. of America: *The William Lowell Putnam Mathematical Competition 1985 - 2000: Problems, Solutions and Commentary* by K.S. Kedlaya, B. Poonen and R. Vakil, ISBN 0-88385-807-X. Earlier exam questions, going back to 1938, have been collected in books too but they are now out of print and most of their problems seem ever less typical of current exam questions, which have become increasingly combinatorial.

Putnam exam questions are often so challenging that perhaps half of over 3000 contestants get none right out of twelve. A crucial requirement is the ability to explain proofs clearly without omitting logically important steps. A contestant who is clever but mathematically inarticulate for lack of practice may thereby score no better than a contestant who is less clever. Math H90, the Putnam Problems Practice Seminar, meets twice or thrice per week in the Fall Semester to hone participants' problem-solving and expository skills.

The Putnam Competition is open to students who have no college degree and are regularly enrolled in classes at a college or university in Canada or the U.S. Nobody may compete in the Putnam Competition more than four times. Every college or university may select three contestants to represent it as a team but each contestant must work independently on the Exam questions. A few highest ranked teams and highest ranked individuals in the Competition will receive prizes among which is a scholarship to Radcliffe or Harvard. U.C. Berkeley's three team members ranked high enough in 2001 and 2002 to earn each one a small monetary prize and a heavy bronze medal. So few contestants score high in the Exam that their standings have always weighed heavily with Graduate Admissions committees. A better reason to participate in Math. H90 is the enjoyment of mathematical problems with instructive and often surprising and elegant solutions accessible to students currently taking upper-division Math. courses.

The Putnam Problem Practice Seminar, Math. H90, at U.C. Berkeley

Math. H90 is the seminar for students who wish to practice solving problems including many like the ones that turn up on the Putnam Exam. The seminar for Fall Semester 2007 meets on Mondays 4 - 6 pm. in 71 Evans Hall, and Fridays 8 - 10 am. in 75 Evans Hall.

One unit of credit is earned by active participation in the seminar. Participants do not have to take the Putnam Exam, nor do candidates for that Exam have to participate in the seminar. Participate in the seminar to enjoy solving hard problems and to get better at it with practice, rather than merely in the hope of a high score on the Exam.

Graduate students and faculty willing to lead a seminar on problems close to their hearts are welcome to participate too. As many as two such special seminars per semester have occurred; more would be better.