

The Putnam Competition

What: The Putnam exam tests originality, technical competence and familiarity with elementary undergraduate mathematics. Most questions require only the standard concepts of calculus and linear algebra.

Prizes: Competition is primarily individual. The five highest ranking students are designated *Putnam Fellows* and receive \$2500 each. One receives a Putnam fellowship to Harvard. There are other cash prizes for the next 20 students. The top 100 students are reported in the American Mathematical Monthly, and lists of those in the top 500 nationally are reported to participating Math Departments.

Team: By mid October, each school selects three students (plus some alternates) to form that school's team. Team standing is based on the ranks of the three team members rather than on total score. There are prizes and prestige for excellent achievements here as well. Often some of a school's highest scorers are not on the school's team.

Exam Format and Grading: The exam consists of two sessions (10am-1pm and 3pm-6pm) on Saturday December 5. Each session consists of six problems worth 10 points each. Problems are hard and there is no disgrace in receiving a 0 (as 47% of last year's contestants did) or other low score. Last year, a score of 22 was required to make the top 500 (actually top 496) and 54 to make the top 100.

On each problem, all the necessary work to justify an answer and all the necessary steps of a proof must be shown clearly to obtain full credit. Some partial credit may be given, but only when a contestant has shown significant and substantial progress towards a solution.

History: The table below shows Putnam fellows associated to Cornell (past students and current faculty) and top ranked Cornell teams.

| Students | Faculty | Teams |
|--------------------------|--------------------------------|--------------------------------|
| Jeremy L. Bem 1994 1996 | Prof. Robert S Strichartz 1962 | 1 st 1951 1954 |
| Robert D. Kleinberg 1996 | | 2 nd 1994 1995 |
| David J Wright 1992 | | 3 rd 1953 1957 |
| Leonard Evens 1954 | | 5 th 1958 1960 1992 |

Professors Hubbard and Connelly worked with the mid 90's Cornell teams which finished second nationally. Robert Kleinberg is an Assistant Professor in the Cornell Computer Science Department.

In 2008, seven Cornell students made the top 275, and three more joined the top 550. The Cornell team of Julius Poh, Matt Weinberg, and Ernest Chong finished 16th nationally. Ranks in the previous 6 years were 16, 14, 20, 25, 21, and 66.

Meetings: This year, we will use selected portions of the electronically available book "Putnam and Beyond" as a tool for many of our practice sessions. Details of access are at our website.

You are welcome to take the Putnam exam without coming to the practice sessions which will be Wednesdays at 4:45 in the Malott fifth floor lounge.

Website: <http://www.math.cornell.edu/~putnam>