

# 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 6. Each session consists of six problems worth 10 points each. Problems are hard and there is no disgrace in receiving a 0 (as 42% of last year's contestants did) or other low score. Last year, a score of 21 was required to make the top 500 (actually top 455) and 42 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<br>Robert D. Kleinberg 1996<br>David J Wright 1992<br>Leonard Evens 1954 | Prof. Robert S Strichartz 1962 | 1 <sup>st</sup> 1951 1954<br>2 <sup>nd</sup> 1994 1995<br>3 <sup>rd</sup> 1953 1957<br>5 <sup>th</sup> 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 2007, Cornell student Julius Poh won honorable mention for the third time. Five others made the top 275, and seven others joined the top 551. The Cornell team of Hyun Kyu Kim, Julius Poh, and Ernest Chong finished 16th nationally. Ranks in the previous 5 years were 14, 20, 25, 21, and 66.

**Meetings:** 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. We'll work hard to make the practice sessions of value both to your chances on the exam and to your general mathematical capabilities.

**Team Selection:** We'll have a practice Putnam Exam on Wednesday October 1 in Malott 253 to play the principal role in choosing two people to join Julius on Cornell's team for 2008.

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