

Syllabus for Putnam Problem Solving (110.225)

Fall, 2003

- Instructor: Byungchul Cha (chabc@math.jhu.edu)
 - Contact: Office - Krieger 311 (phone - 410-516-5128)
 - Office hours: 4 – 5pm, Tuesdays and Thursdays, and by appointment.
 - Course Web site: <http://www.math.jhu.edu/~chabc/> and follow the link for *Putnam Problem Solving*.
 - Lecture: Tuesdays and Thursdays, 6:00pm – 7:15pm, at Gilman 33
 - Grader: Zhi He (zhihe@math.jhu.edu)
 - Textbook: *The art and craft of problem solving*, by Paul Zeitz, John Wiley & Sons inc.
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- Course description: *William Lowell Putnam Mathematical Competition* is an annual mathematics problem solving competition for college students in North America. (See the link at the course website for official Putnam Competition web page) In this class, we will learn some of mathematics problem solving skills, well-suited for Putnam-kind of problems.
 - Prerequisite: Calculus I is required. Calculus II is recommended but not required. Experience in Discrete Mathematics and/or Linear Algebra will be useful but not essential. The instructor will check with students' background at the beginning of the semester, and will try to make the course accessible to as wide audience as possible. Anyone who wants to take this course, but who is unsure with his or her prerequisite should consult with the instructor as soon as possible.
 - Course content outline: The topics we will cover in this course will include algebra, combinatorics, calculus, graph theory, and much more. However, none of these topics will be studied thoroughly. Instead, we will focus more on how we can adapt these theories to solve particular math problems at our hands. See some past Putnam problems from the course web site.
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- Grades: The grade will be based on the following: Homework: 50%, Midterm: 20%, and Final exam (take-home)- 30%.
 - Exams: Midterm will be given after we cover most of the basic problem solving skills, which will be around the end of October. The exact schedule will be announced in class later. The course will end a week prior to this year's Putnam Competition, and the take-home final will be due by two days before the competition. The exact date and time for final exam will be determined after Putnam competition is scheduled.
 - Policy on missing exam: There will be no make-up exams. When a student misses the scheduled midterm, the grade will be counted as zero unless he or she has a reasonable excuse, in which case the student will have to provide with the necessary document in accordance with the university regulation and the grade will be prorated.
 - Homework: This is an integral part of the course. Discussion of the assignment with your fellow classmates is permitted and recommended. (See

below for the statement on Academic Ethics.) However, you should write up your own homework individually.

Homework will be assigned on Tuesdays every week or every other week, and it will be due in two weeks, that is, the second next Tuesdays. Late homework will not be accepted.

- Statement on Academic Ethics:

The strength of the university depends on academic and personal integrity. In this course, you must be honest and truthful. Ethical violations include cheating on exams, plagiarism, reuse of assignment, improper use of the Internet and electronic devices, unauthorized collaboration, alteration of graded assignments, forgery and falsification, lying, facilitating academic dishonesty, and unfair competition.

In addition, the specific ethics guidelines for this course are:

- (1) *Collaboration on take-home exam is strictly prohibited. Any use of resource - internet, books etc., - except those permitted by the instructor in take-home exam is also prohibited. Any violation of it will be regarded as cheating.*
- (2) *Collaboration on homework assignment is permitted and recommended. However, each student must write up his or her own assignment individually.*

Report any violations you witness to the instructor. You may consult the associate dean of student affairs and/or the chairman of the Ethics Board beforehand. See the guide on "Academic Ethics for Undergraduates" and the Ethics Board Web site (<http://ethics.jhu.edu>) for more information.