Math 2690
Mathematical Problem Solving

Professor: Greg Marks
Fall 2018
Mon., 5:10–6:00 p.m.
106 Ritter Hall
1 unit
C.R.N.: 12772

This is a fun and interesting class for students at all levels who enjoy logical and mathematical puzzles and problems. Students will have the opportunity to:

- Learn various "tricks of the trade" not usually discussed in standard math classes—very useful for those going on to careers in high-tech industry or to graduate studies.
- Discover ways of applying what they have learned in diverse math courses to solve novel problems.
- Encounter math problems used in the real world as "entrance exams" by companies for prospective employees.
- Engage in mental exercise that should enhance their performance in all their classes.
- Participate in the William Lowell Putnam Mathematical Competition, a nationwide mathematics contest for undergraduates, which offers participants cash prizes of up to $3,500, as well as prestige and accolades for the students and the university.

This course may be repeated for credit and will be graded on the Satisfactory/Unsatisfactory option. There will be no required homework, although students will be strongly encouraged to attempt the problems given out in class and participate in class discussions. Any student who participates in the Putnam Competition from 9 a.m. to 5 p.m. on the first Saturday in December will receive a grade of "Satisfactory" in this course, regardless of the score received in the Competition. There will be an emphasis throughout this course on past Putnam problems as preparation.

To illustrate the sort of challenging puzzle that is accessible to students at all levels, here is a sample problem:

Do there exist integers x, y, and z such that

$$\sqrt{x^3 + y^3 + z^3} = 2018?$$