

SPRING 2008

MATH 490 - Mathematical Issues in National Security II

MWF 9:00-9:50, 141 Altgeld

CRN 44789

Instructor: Julian Palmore

This is a follow on to MATH 367 (Mathematical Issues in National Security, Fall 06) where several of the topics below have been introduced. Math 490 may be taken independently. Topics will be covered in depth. It is highly recommended that students who intend to take this course have taken a differential equations course.

1. Mathematics of ballistic missile flight and space flight.
2. Probability with applications to missile defense, risk management, and other problems.
3. Lanchester equations of attrition and reinforcement.
4. Modeling chaos and stochastic processes.
5. Dimensional Analysis as a useful tool in solving problems.
6. Game theory and decision analysis for strategy development.
7. Biological Threats and Emerging Infectious Diseases