1035-M1-1624 **Itai Seggev*** (`iseggev@knox.edu`), Knox College Box 80, 2 E. South Street, Galesburg, IL 61401. *More Quantum Mechanics and Linear Algebra: The Neutrinos and Other Subatomic Particles.*

Quantum mechanics—originally formulated as "Matrix Mechanics"—provides a natural application for the techniques of linear algebra. In this talk I will briefly review the connection between quantum mechanics and linear algebra, then explore the case of neutrino oscillations. This has been an active area of physics research over the last decade, yet much of it can analyzed using only basic matrix algebra and the spectral theorem for symmetric matrices. Actual problems given in class will be presented. If time permits, I will also discuss the continuous and discrete symmetries involved, which provide a natural, early introduction to group theory in linear algebra. No previous knowledge of physics will be assumed. (Received September 20, 2007)