Graduate Student Seminar

UNIVERSITY OF NOTRE DAME
Department of Mathematics

Speaker: Phillip Jedlovec
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Monday, December 15, 2014
4:00 PM
129 Hayes-Healy Hall

Title: Arrow's Impossibility Theorem

Abstract:

Social choice theory, an area of study closely tied to fields as diverse as mathematics, economics, political theory, and philosophy, seeks to aggregate individual preferences into overall societal preferences in order to aid the collective decision-making process within a society. Perhaps the most famous and influential theorem in modern social choice theory is Arrow's Impossibility Theorem, or Arrow's Paradox, which states that no social choice function which combines individual rank-order preferences into a societal rank-order preference can simultaneously satisfy the following three very minimal fairness and consistency criteria: the Weak Pareto Criterion, Independence of Irrelevant Alternatives, and Nondictatorship. In this talk, I will discuss the mathematics underlying this famous theorem, outline some of its economic and philosophical implications, and finally give a sketch of its proof.