Mounting environmental concerns have led to renewed interest in the use of the U.S. Corporate Average Fuel Economy (CAFE) regulation to reduce global warming. This is evidenced by a major research study by the U.S. National Research Council (NRC) and a controversial new law in California that regulates carbon dioxide emissions from passenger vehicles. This seminar will report preliminary results from an effort to model the effects on automobile producer and consumer welfare of increasing CAFE stringency and introducing fuel economy credit trading. Inputs to the model include pricing and production data on five major automobile manufacturers, ten vehicle types (from subcompacts to SUVs), NRC’s detailed cost estimates for fuel-saving technologies and consumer preferences for fuel economy and vehicle type. Results include equilibrium changes to vehicle prices, product mix and producer surplus; credit prices and the value of inter-firm transfers; gains from credit trading; and marginal social costs per gallon saved. The seminar will also address implications for optimal CAFE stringency versus gasoline taxes.