RSM2125
Game Theory and Applications for Management
Byung Soo Lee
byungsoolee@rotman.utoronto.ca

TARGET AUDIENCE
The audience for this course is anyone interested in the fundamental principles that are used in the disciplined and therefore necessarily abstract analysis of general strategic situations that cookie-cutter solutions and popular heuristics cannot cover. In particular, those interested in general management or consulting may enjoy the course.

COURSE MISSION
The aim of this course is to equip all enrolled students with the ability to model decision problems of all kinds (e.g., business, political, and personal relationships) as games and reason through them in intellectually disciplined manner befitting a "management scientist". We want to become internally disciplined about that which we know, that which we do not know, and that which we assume about a strategic interaction between interested parties. In particular, we want to become adept at putting ourselves in the shoes of others in ways that are relevant to our own decision making. Toward that end, we will explore both the mathematical tools and intellectual philosophy of game theory.

COURSE SCOPE
The first third of the course is devoted to models of probability and decision making under uncertainty. The intellectual history of probability from the 17th century to the present will be quickly covered in broad strokes. The formal frameworks for applying probability theory to decision problems will be developed and motivated. In the remainder of the course, we will learn how these simpler frameworks, which are relevant to individual decision making, can used to better understand strategic interactions between multiple interested parties in game theoretic models. Several important broad categories of strategic interactions will be covered (e.g., commitment, asymmetric information, etc.).

REQUIRED RESOURCES
Recommended book: Games and Information: An Introduction to Game Theory by Eric Rasmusen. An electronic version is available online.

COURSE FORMAT
12 weekly sessions

EVALUATION AND GRADE DISTRIBUTION
The evaluation will be based on short quizzes, assignments and a group project. There is no exam in this course.