

DE LA SALLE UNIVERSITY – MANILA
COLLEGE OF SCIENCE
Mathematics Department

SYLLABUS

COURSE CODE	MTH625M/D
COURSE TITLE	Game Theory
CLASS DAY & TIME	
ROOM	
NAME OF FACULTY	
COURSE CREDIT	3 Units
CONTACT NO. (DEPT)	(02) 536-0270, (02) 524-4611 loc. 420/413
TERM/SCHOOL YEAR	

COURSE DESCRIPTION

An introductory course on game theory which tackles both the non-cooperative and cooperative streams.

COURSE OBJECTIVES

The students will:

1. Be aware of the fact that game theory has many applications in real-life situations.
2. Understand game theory as an effective tool in the analysis of problems encountered in different fields such as political science, military science, economics, business, and life behavioral sciences.
3. Identify optimal strategies in a non-cooperative game.
4. Prove properties of point and set solutions to a cooperative crisp game.
5. Exhibit values like:
 - cooperation through group study;
 - honesty by claiming credit only for the work he has done;
 - zeal and seriousness of intent to learn by particip1.14544(L)r11115(17.07(4 1513 229xo)6 re f -675 82707(4 926xo)6 1r-

SOURCES**BOOKS**

- Branzei, Rodica, *Models in cooperative game theory: crisp, fuzzy, and multi-choice games*, Berlin: Springer, 2005.
- Gilles, Robert P., *The cooperative game theory of networks and hierarchies*, Heidelberg: Springer, 2010.
- Kolokoltsov, Vassili N. and Oleg A. Malafeyev. *Understanding game theory: introduction to the analysis of many agent systems with competition and cooperation*, Singapore: World Scientific, 2010.
- Maschler, Michael, Eilon Solan and Samuel Zamir, *Game theory*, Cambridge: Cambridge University Press, 2013.
- von Neumann, John and Oskar Morgenstern, *Theory of Games and Economics*, 60th Anniversary Edition, Princeton University Press, 1972 (orig.).

ONLINE MATERIALS

- www.gametheory.net
- oyc.yale.edu/economics/econ-159
- <https://www.coursera.org/course/gametheory>
- www.gametheorysociety.org
- plato.stanford.edu/entries/game-theory/

RELATED WORKS OF FACULTY

- *On Strategies of Sponsored Games*, submitted for publication.
- *Allocations in Sponsored Games* (co-authored with Ms. Karen Nocum), submitted for publication.
- *Two Option Strategies of Team Players in Sponsored Games*, DLSU Science and Technology 2014.
- *Cooperation Induced by Sponsors*, DLSU Science and Technology 2013.

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