Title and Code of Course: Logics of the Social Sciences. ERPB-MTVN 9004

Instructor's Name: Prof. Dr. László Pólos

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Credit Point Value: **6**	Number of Lessons per Week: **2**	Type of Course: **Seminar** ☒ **Lecture** ☒	Method of Evaluation: **Oral Examination** ☐ **In-Class Presentation** ☒ **Other** ☐

Course Description:

This course offers a tender introduction into four different logics successfully applied within the social sciences: Classical First Order Logic, what in the last 25 years has turned out to be an unavoidable tool for clarifying concepts and argumentation; Modal Logics what has an amazing width of applications ranging from modelling decision making processes under the conditions of bounded rationality to the emergence of prejudice; Dynamic Logics, that allows for modelling argumentation within theories that are still in flux; and Bayesian Probabilistic models of cognitive processes, and the avenues of research opened up due to these models.

The course is organized into four three week long modules covering these topics. No knowledge of logic(s) is presupposed, but some might turn out to be useful. The ability and willingness to think a bit abstractly might offer an alternative route.

Bibliography:

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2. Péli Gábor, Pólos László, Hannan Michael T.:
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3. Péli G:
The Niche Hiker's Guide to Population Ecology:
A logical reconstruction of organization ecology's niche theory,
SOCIOLOGICAL METHODOLOGY 27: (1) pp. 1-46.

1. Z. Huang, M. Masuch, and L. Pólos.:
A Preference Logic for Rational Actions." In: Blanning and King(eds) *Artificial Intelligence in Organizational Design*. 1996.

2. L. Pólos. Hannan M. T. :Modalities in Sociological Arguments
Mathematical Sociology (2010)

3. Greta Hsu, Michael T. Hannan & László Pólos
Typecasting, Legitimation, and Form Emergence: A Formal Theory
Sociological Theory 29 (2):97-123 (2011)

1. F. Veltman:
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volume 25, pages 221–261 (1996)

2. László Pólos, Michael T. Hannan:
Reasoning with Partial Knowledge
SOCIOLOGICAL METHODOLOGY 32 pp. 133-181. , 49 p. (2002)

3. Hannan, M.T., Pólos L., Carroll, G.R.
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Columbia University Press (2019)