

Logic & Cognition

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The course is aimed at deepening participants' insights into contemporary logical theory and practice of reasoning and inference.

On the theoretical side, we shall discuss the very notions of reasoning and inference from the point of view of cognitive science, considering the impact of the new influential psychologicistic paradigm in logical research.

On the practical side, we shall examine certain important developments in logical analysis of reasoning and inference processes (concerning abductive reasoning, logic of questions, the role of algorithms and heuristics in problem-solving) and their applications to the analysis of human cognition.

Everything: mu.edu.pl \Rightarrow Teaching \Rightarrow Logic and Cognition

Mariusz Urbański:

- Logic, psychologism, reasoning
- Abduction
- Deduction
- Questions: Erotetic reasoning
- Empirical research: Wason selection task, Raven's matrices, syllogisms and polysyllogisms

Frank Zenker:

- Standard methodological issues of empirical research on human reasoning
- Choice of normative standard; Meaning coordination between experimenter and subject; Verbatim protocols
- Assessing the formal model 1 (logical models)
- Assessing the formal model 2 (probabilistic models)
- Course Summary

- Lectures: 6.10.16 – 17.11.16 and 5.12.16 – 9.12.16
- Tutorials:
 - five in-class, 13.10.16 – 10.11.16, with assigned readings:
 - three chapters from Stenning and van Lambalgen's "Human Reasoning and Cognitive Science" (available on EBSCOhost via USOS);
 - one chapter from Adler and Rips' "Reasoning. Studies in Human Inference and Its Foundations";
 - a paper by Magnani (available for download on a course webpage).
 - individual appointments (via <https://mariuszurbanski.youcanbook.me/>):
 - first round: 17.11.16 – 15.12.16; discussions of topics and abstracts of term papers;
 - second round: 05.01.17 – 26.01.17; term papers vivas.

110 pts possible:

- Tutorials (70 pts):
 - 5 tasks (6 pts each), at the end of each in-class tutorial, concerning topics just covered;
 - term paper (40 pts); topic of your choice, but approved.
- Final exam (40 pts): open-book, four open-ended questions.

The scale:

Pts (tutorials)	Grade	Pts (total)	Grade
more than 65 – 70	5	more than 100 – 110	5
more than 55 – 65	4,5	more than 90 – 100	4,5
more than 50 – 55	4	more than 80 – 90	4
more than 45 – 50	3,5	more than 70 – 80	3,5
more than 35 – 45	3	more than 55 – 70	3
0 – 35	2	0 – 55	2

- Your individual work.
- 5 – 6 pages of text (including references) and a title page.
- In Polish or (preferably) English.
- Topic of your choice, related to (preferably logical) theory and practice of reasoning and inference.
- Topic and abstract (ca. 250 words) need to be approved by 16.12.16; use first round of individual appointments for discussion (17.11.16 – 15.12.16). At least one such appointment is compulsory for a paper to count towards the final grade.
- Deadline for submitting the paper is one week before the second appointment (05.01.17 – 26.01.17), at which we shall discuss the paper itself. Again, at least one such appointment is compulsory for a paper to count towards the final grade.

- Standard \LaTeX article class.
- 11 pt font.
- Author-year citations (`apacite` will do; some examples are [here](#)).
- Title page: author's first and last name, e-mail address, student index number, title of the paper, abstract, 3 to 5 keywords.

- Form (10 pts):
 - Does the content of the paper correspond to the topic specified in the title?
 - Is the content well-structured?
 - Is the paper well-written?
 - Are the references adequate?
- Content (30 pts):
 - Is the thesis and argumentation clear?
 - Are there any author's own arguments?
 - Is there any novel perspective involved?

06.10.16 – 17.11.16 MU lectures

05.12.16 – 09.12.16 FZ lectures

13.10.16 – 10.11.16 In-class tutorials with readings assigned

17.11.16 – 15.12.16 Individual appointments, first round: discussions on topics and abstracts of term papers.

16.12.16 Final versions of abstracts due.

29.12.16 – 19.01.17 Term papers due, depending on the date of second appointment.

05.01.17 – 26.01.17 Individual appointments, second round: term papers vivas.

02.02.17 – 19.02.17 Exams, sometime.