Central Topics in the Philosophy of Science

Room 129

Instructor: Dr. Jürgen Landes
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Office hours: After class and by appointment

Teaching Assistants: Timo Freiesleben and Gašper Stukelj
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Sessions: Tuesdays 10:15 - 11:45.

Wintersemester - 2019/20

Overview

This course provides a systematic discussion of central problems from general philosophy of science from a Bayesian point of view, including the problem of induction, confirmation and evidence, evidential variety and objective Bayesian epistemology. The seminar is accompanied by a tutorial which systematically introduces our main modelling tool: probability theory and in particular the theory of Bayesian networks. Students are expected to work on problem sets every week and will learn to construct and analyse Bayesian models themselves.

Coursework

Students are requested to attend all sessions, to attend attend the weekly tutorials (Thursday 18:15-19:45) and hand in solutions of the weekly problem sets at the
beginning of each session, to study the reading assignments and to submit one discussion question about the readings per week together with their solutions to the problem set and to participate in the classroom discussions.

In the session of the 17.12. 2019, there will be a Midterm-Exam with mathematical problems.

By 28 March 2020, students have to submit a term paper of about 3000 words. The term paper should be interesting and relevant to CtPS (widely construed) and you and your career.

An abstract (What is your philosophical thesis? Why is it relevant? How are you going to argue for it?) and a literature list have to be submitted by 8 February 2020. The instructor and/or a TA will provide feedback.

No tutorials take place after Christmas.

Assessment

The final mark will be determined from the weekly problem sets (25%), the Midterm-Exam (35%), and the term paper (40%).

Term paper: No Literature = No Marks = FAIL.

Plagiarising and cheating will not be tolerated and result in an automatic FAIL.

Chance for bonus points: Discover a typo/mistake in the formal part of the lecture notes that only you find.

Course Material and Communication

Lecture notes (including reading assignments), problem sets and solutions will be published on my website. If you have not been added yet, please, send an email to Maria Csauscher-Wuck (office.hartmann@lrz.uni-muenchen.de) so that she can set up a mailing list (urgent cancellations, etc.).

Dates and Planned Topics

- Week 1 (15.10.2019): Basic Probability Theory
- Week 2 (22.10.2019): Bayesian Epistemology
- Week 3 (29.11.2019): Interpretations of Probability
- Week 4 (05.11.2019): Bayesian Networks
- Week 5 (12.11.2019): The Variety of Evidence Thesis
- Week 6 (19.11.2019): The No Alternatives Argument
- Week 7 (26.11.2019): Objective Bayesian Epistemology
- Week 8 (03.12.2019): Epistemic Utility Theory
- Week 9 (10.12.2019): The Value of Information
- Week 10 (17.12.2019): **Midterm-Exam**
- Week 11 (07.01.2020): Causal Assessment
- Week 12 (14.01.2020): Wisdom of the Crowds by Timo Freiesleben
- Week 13 (21.01.2020): Calibration
- Week 14 (28.01.2020): Find Your Essay Topic
- Week 15 (04.02.2020): Student Presentations

**Useful Resources**

- [Harvard Writing Guide](#).
- [Uni online library](#).
- [Google Scholar](#).
- [Phil Papers](#).
- [Stanford Encyclopedia of Philosophy](#).
- Teachers, teaching assistants, peers, student union, student bodies, student representatives, PhD students, friends & family, ...
- Course rep.
References


