Theme of Lecture	**Topics in class (videos numbered)**	**Readings after video lecture (= preparation for tutorial)**
Lecture 4A: Observation, Hypotheses / Explanations, Abductive Reasoning (IBE). Lecture 4B: Hypotheses and Modelling	**4A Observation, Hypotheses / Explanations, Abductive Reasoning (IBE).** **4.1** Introduction: The societal relevance of philosophy of science. **4.2** Summary: The logic of 'truth' and 'empirical adequacy'. **4.3** What is a hypothesis? **4.4** Do laws of nature *explain*? (Socrative) **4.5** Laws of nature: Descriptions, definitions or explanations of observed phenomena? **4B. Hypotheses and Modelling** **4.6** Is your opinion really that extreme? - Are you really a realist / anti-realist? **4.7** Are laws just descriptions of observed phenomena? **4.8** How do we get theories (or models) that explain observed phenomena? **4.9** The problem of correspondence between the scientific model and real-world (= The problem of Realism). **4.10** Can we develop an alternative to Realism? **4.11** The *anti-Realism* alternative. **4.12** Some other examples of observed phenomena and the scientific models explaining them. **4.13** Scientific knowledge as tools for thinking – called *epistemic tools*. **4:14** The B&K theory of scientific modeling. **4:15** Take home message.	Slides + notes of class 4