

PH458
EVIDENCE AND POLICY

2017/18 Course Guide

DEPARTMENT OF PHILOSOPHY, LOGIC AND SCIENTIFIC METHOD

PH458 PHILOSOPHY OF SCIENCE

Teacher Responsible: Dr. Ioannis Votsis

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Office Hours: Tuesdays 15:00-16:00

Timetables:

<http://www.lse.ac.uk/intranet/diaryAndEvents/timetables/home.aspx>

Introduction

Overview

Good policy decisions - whether concerning climate, conservation, international development, poverty, education, medicine, or health - require rational deliberation over whether the proposed policy will (or is likely to) bring about the intended outcome. Will lowering CO₂ emissions reduce global warming? Will mass mammography decrease the number of deaths from breast cancer? Will making a drug available on the NHS have (as a rule) a positive effect on patients? Will smaller class sizes enhance scholastic achievement? The obvious suggestion is that answers to such questions are the result of rational deliberation just in case they are based on good evidence and appropriate reasoning. But what counts as good evidence and appropriate reasoning? And what happens when different kinds of evidence pull in opposite directions? Are certain types of evidence more telling than others? And if so, why? Does evidence that the policy works in one country mean that we should have confidence that it will work in another country? If there can be no guarantee of success, will the given policy at least increase the probability of the desired outcome? These are some of the central issues addressed in the course.

Aims and Objectives

It might seem initially that only experts, only scientists involved in the field, can tell what counts as good evidence and appropriate reasoning. Yet even experts are susceptible to error. In this course, you can learn how to be 'evidence-savvy', how to ask the right questions about evidence and reasoning as well as how to think about risk-assessment and its relation to policy. Mastering the course provides a basis for more advanced studies on the relationship between evidence and policy.

Coursework (Formative Assessment)

Attendance of all lectures and seminars is compulsory. Philosophy is about engaging actively with ideas. Participating in lectures and seminars is an essential way to experience it.

In more detail, students are expected to:

- Attend lectures and seminars and participate in seminar discussion.
- Write one formative essay of approximately 2000 words and submit it through Moodle by the pre-arranged deadline (see Moodle).
- Answer three short questions posted weekly on Moodle, and submit them through Moodle before 09:00am of the day that the relevant seminar takes place. These answers are *not* marked, but serious submission is required.

Short Answer Questions. Answers to the questions will typically be 3-5 sentences. A good short answer has the following qualities.

- It is focused on the question. Don't write down everything you know on the topic! Only include material that is relevant to the question set.
- It is clear and precise. Obfuscation will only harm your essay!
- It shows you are familiar with the material, for instance through discussion of the main view(s)/argument(s) relevant to the question, through expression of these ideas in your own words, through illustration with your own examples, and through your own critical evaluation.

Students are expected to submit their answers each week, and discuss them during the seminar. The upshot is that when the time comes to prepare for the exam, students should already have answers to 30 questions on the taught material – a formidable store of information!

Essay Questions. The essays must be written either on a topic from the relevant essay list (two such lists are distributed on Moodle) or on a topic discussed with, and approved by, the course leader. Your essay should ideally have the following elements:

- A short introductory section that includes a sentence-long assertion of the main thesis that provides an answer to the essay question. The introduction should also contain a preview of what's to come.
- An in-depth review of the main positions and arguments for or against. That is, a discussion of the background for the thesis. In

order to understand the thesis, there is always some context that must be explained.

- One or more crisply formulated and, if possible, formalised argument(s) supporting your thesis. The argument must be both valid (or at least of a certain inductive strength) and supported through evidence and further argument.
- Counter-arguments to your view and argument(s) and replies thereof.
- A short summary of what you have achieved in the essay.
- A bibliography that contains all and only the works you cited in the text.
- Potentially some footnotes that contain information of secondary importance.

Essays that take the aforementioned instructions seriously and apply them successfully are highly likely to do well in the evaluation. Students will also receive credit for organisation, originality, and general clarity of writing.

Students with no prior training in analytical philosophy may find the following helpful when planning and writing essays:

Weston, A. (2000) *A Rulebook for Arguments*. 3rd ed., Indianapolis and Cambridge: Hackett.

Teachers will mark essays and give critical feedback *only for essays turned in on time*. Marks for formative essays do not count towards the final mark students receive for the course.

Summative Assessment

The final mark received for the course is determined by two factors. First, a summative essay due Friday 26 January 2018 at 17:00 to be submitted through Moodle and which accounts for 33% of the total mark. Second, a two-hour written examination in the summer term which accounts for 67% of the total mark.

The exam will consist of the following:

- 6 short-answer questions, all of which must be answered.

Adequate answers will be about a paragraph long. The questions will be chosen word-for-word from the list of the 30 short answer questions provided throughout the Michaelmas term.

- 5 essay questions, of which one must be answered.

The essay question and the group of 6 short answer questions bear equal weight. That is: 50% of the exam mark is based on the essay question and 50% is based on the 6 short-answer questions.

Note: The above only concerns LSE examinations. Students from other colleges attending this course have to take intercollegiate examinations; they do *not* take the LSE examination. These students will be told by their own colleges when their examination will take place and on what materials they will be assessed. Neither the lecturer of this course nor the LSE are involved in the organisation of these examinations.

Internet Access

By enrolling in this course, students agree that they will access the internet regularly. This will allow them to submit coursework online by the pre-assigned due dates. In particular, they need to ensure that they have enough time to learn how to submit coursework online, and to troubleshoot any potential problems before the due date. To avoid such problems, please don't wait until the last minute!

Academic Integrity

LSE seeks to maintain an optimal learning environment. General principles of academic honesty include the concept of respect for the intellectual property of others, the expectation that individual work will be submitted unless otherwise allowed by an instructor, and the obligations both to protect one's own academic work from misuse by others as well as to avoid using another's work as one's own. All students are expected to understand and abide by these principles. If you are not sure what constitutes plagiarism, visit the Harvard Guide to Using Sources at <http://goo.gl/hFa7EF>.

Self-Plagiarism

Your summatively assessed work cannot normally contain any material

that you have previously submitted as part of another summative assessment. Sometimes exceptions may be granted, but you must tell your supervisor or course teacher about this, because further conditions will apply. Re-using your own material without permission from your supervisor or course teacher risks committing an offence of self-plagiarism.

The School's policy & procedures regarding plagiarism: http://www.lse.ac.uk/intranet/LSEServices/TQARO/Calendar/RegulationsAssessmentOffences_Plagiarism.pdf.

Accessibility Needs

Your success at LSE is important to us. Every student is entitled to the opportunity to have a meaningful learning experience. You are warmly encouraged to discuss your particular learning styles and requirements with me personally during Office Hours. Students with special needs or disabilities are also encouraged to avail themselves of the services of LSE's Disability and Wellbeing Service. They may be contacted by email at disability-dyslexia@lse.ac.uk or by phone at (0)20 7955 7767. If you plan to make a request, please remember to make an appointment for an Individual Student Support Agreement (ISSA) and contact their lecturers about your requests as early in the semester as possible, so we can make sure that you are accommodated.

Timetabling Note:

Please note that the lecture/seminar time and location may change over the course of the year. When that happens students will be notified in advance. For information about timetables and rooms please refer to the official LSE timetables at: http://www.lse.ac.uk/admin/timetables/confirmed/restricted/module_sessional.htm

Texts

Main Text (this is recommended but not required):

Cartwright, N. and J. Hardie (2012) *Evidence-Based Policy: A Practical Guide to Doing it Better*, Oxford: Oxford University Press

Other Useful Texts:

- Douglas, H. (2009) *Science, Policy and the Value-Free Ideal*, Pittsburgh, PA: University of Pittsburgh Press
- Gigerenzer, G. (2002) *Reckoning with Risk: Learning to Live with Uncertainty*, London: Penguin.
- Gigerenzer, G. (2014) *Risk-Savvy: How to Make Good Decisions*, London: Penguin.
- Mayo, D. and R. Hollander (eds.) (1991) *Acceptable Evidence: Science and Values in Risk Management*, New York: Oxford University Press.
- Pawson, R. (2006) *Evidence-Based Policy: A Realist Perspective*, London: Sage Publications.
- Reiss, J. (2016) *Error in Economics: Towards a More Evidence-Based Methodology*, London: Routledge.
- Shemilt, I. et al. (eds.) (2010) *Evidence-Based Decision and Economics*, 2nd ed., West Sussex: Wiley-Blackwell.
- Steel, D. (2015) *Philosophy and the Precautionary Principle: Science, Evidence, and Environmental Policy*, Cambridge: Cambridge University Press.

Surveys

- Bradley, R. and K. Steele (2015) 'Making Climate Decisions', *Philosophy Compass*, vol. 10 (11): 799-810.
- Kelly, T. (2016) 'Evidence', *The Stanford Encyclopedia of Philosophy* (Winter 2016 Edition), Edward N. Zalta (ed.), URL = <<https://plato.stanford.edu/archives/win2016/entries/evidence/>>.
- Worrall, J. (2007b) 'Evidence in Medicine and Evidence-Based Medicine', *Philosophy Compass* 2/6: 981–1022.

Web Resources

- Google Scholar: <https://scholar.google.co.uk/>
- Routledge Encyclopaedia of Philosophy [Link in LSE e-library]
- Stanford Encyclopaedia of Philosophy: <http://plato.stanford.edu>
- The Internet Encyclopedia of Philosophy: <http://www.iep.utm.edu/>

Topics

Disclaimer: The compulsory readings can be changed at any time in order to respond to the needs of course participants. It is important that students check for updates on Moodle every week.

Michaelmas Term

Week 1:

LECTURE 1: Wednesday Sept. 27.

TOPIC: Evidence-Guided Policy: What is it? Why do we need it?

Required Reading:

Cartwright, N. and J. Hardie (2012) *Evidence-Based Policy: A Practical Guide to Doing it Better*, Oxford: Oxford University Press, Ch. 1.A.

Pawson, R. (2002) 'Evidence-Based Policy: In Search of a Method', *Evaluation*, vol. 8(2): 157-181.

Further Reading:

Cartwright, N. (2012) 'Will This Policy Work for You?', *Philosophy of Science*, vol. 79(5): 973–989.

Cartwright, N. and J. Stegenga (2011) 'A Theory of Evidence for Evidenced-Based Policy', in W. Twining, P. Dawid, and D. Vasilaki (eds.), *Evidence, Inference and Enquiry*, New York: Oxford University Press.

Carvalho, S., and White, H. (2004) 'Theory-Based Evaluation: The Case of Social Funds', *American Journal of Evaluation*, 25: 141–60.

Gigerenzer, G., and Gaissmaier, W. (2011) 'Heuristic Decision Making', *Annual Review of Psychology*, 62: 451–82.

Klein, G. (1999) *Sources of Power: How People Make Decisions*, Cambridge, MA: MIT Press.

Parkhurst, J. (2016) *The Politics of Evidence*, London: Routledge.

Pawson, R. (2006) *Evidence-Based Policy: A Realist Perspective*, London: Sage Publications.

Week 2:

LECTURE 2: Wednesday Oct. 4.

TOPIC: Public Understanding of Science

Required Reading:

Kitcher, P. (2008) 'Science, Religion and Democracy', *Episteme*, vol. 5(1): 5-18.

Further Reading:

Chalmers, A.F. (1999) *What is this Thing Called Science?*, 3rd edition, Maidenhead: Open University Press.

Kitcher, P. (2011) 'Public Knowledge and its Discontents', *Theory and Research in Education*, vol. 9(2): 103-124.

Popper, K. R. (1989) *Conjectures and Refutations*, London: Routledge.

Sahotra, S. (2011) 'The Science Question in Intelligent Design', *Synthese*, vol. 178(2): 291–305.

Sober E. (2004) 'The Design Argument', in Mann W. (ed.), *Blackwell Guide to the Philosophy of Religion*, Oxford: Blackwell, pp. 27–54.

Ziman, J. (1991) 'Public Understanding of Science', *Science, Technology and Human Values*, vol. 16(1): 99-105.

Week 3:

LECTURE 3: Wednesday Oct. 11.

TOPIC: Epistemic Autonomy

Required Reading:

Fricker, E. (2006) 'Testimony and Epistemic Autonomy' in J. Lackey and E. Sosa (eds.), *The Epistemology of Testimony*, Oxford: Clarendon Press.

Further Reading:

Audi, R. (2010) *Epistemology: A Contemporary Introduction to the Theory of Knowledge*, 3rd edition, London: Routledge, ch. 7.

Burge, T. (1993) 'Content Preservation', in Sosa, E, J. Kim, J. Fantl and M. McGrath (eds.) (2008) *Epistemology: An Anthology*, Malden, MA: Wiley-Blackwell.

Lackey, J. (1999) 'Testimonial Knowledge and Transmission', *The Philosophical Quarterly*, vol. 49(197): 471-490.

Lackey, J. (2015) 'Reliability and Knowledge in the Epistemology of Testimony', *Episteme*, vol. 12(2): 203-208.

Ross, J. (1975) 'Testimonial Evidence', in K. Lehrer (ed.), *Analysis and Metaphysics: Essays in Honor of R.M. Chisholm*, Dordrecht: Reidel.

Zollman, K. J. S. (2015) 'Modeling the Social Consequences of Testimonial Norms', *Philosophical Studies*, vol. 172(9): 2371-2383.

Week 4:

LECTURE 4: Wednesday Oct. 18.

TOPIC: Evidence and Values

Required Reading:

Douglas, H. (2009) *Science, Policy and the Value-Free Ideal*, Pittsburgh, PA: University of Pittsburgh Press, Ch. 5.

Further Reading:

Anderson, E. (2004) 'Uses of Value Judgments in Science', *Hypatia*, vol. 19: 1–24.

Barnes, B. and D. Bloor (1982) 'Relativism, Rationalism, and the Sociology of Knowledge', in M. Hollis & S. Lukes (eds.), *Rationality and Relativism*, Oxford: Blackwell, pp. 21–47.

Brown, J. (1994) *Smoke and Mirrors: How Science Reflects Reality*, London: Routledge, Ch. 3.

Collins, H. (1994) 'A Strong Confirmation of the Experimenters' Regress', *Studies in History and Philosophy of Modern Physics*, vol. 25(3): 493–503.

Kitcher, P. (1993) *The Advancement of Science: Science Without Legend, Objectivity Without Illusions*, Oxford: Oxford University Press.

Mayo, D. and R. Hollander (eds.) (1991) *Acceptable Evidence: Science and Values in Risk Management*, New York: Oxford University Press.

Week 5:

LECTURE 5: Wednesday Oct. 25.

TOPIC: Aggregating Judgment

Required Reading:

List, C. (2006) 'The Discursive Dilemma and Public Reason', *Ethics*, vol. 116(2): 362–402.

Further Reading:

Arrow, K. (1951) *Social Choice and Individual Values*, New York: Wiley.

Bovens, L. and W. Rabinowicz (2006) 'Democratic Answers to Complex Questions - An Epistemic Perspective', *Synthese*, vol. 150(1): 131–153.

Cevolani, G. (2014) 'Truth Approximation, Belief Merging and Peer Disagreement', *Synthese*, vol. 191(11): 2383–2401.

Goldman, A. (2004) 'Group Knowledge versus Group Rationality: Two Approaches to Social Epistemology', *Episteme*, vol. 1: 11–22.

- Hartmann, S. and J. Sprenger (2012) 'Judgment Aggregation and the Problem of Tracking the Truth', *Synthese*, vol. 187(1): 209–221.
- List, C. and P. Pettit (2002) 'Aggregating Sets of Judgments: An Impossibility Result', *Economics and Philosophy*, vol. 18: 89–110.
- Pettit, P. (2001) 'Deliberative Democracy and the Discursive Dilemma', *Philosophical Issues*, vol. 11: 268–299.

Week 6:

LECTURE 6: Wednesday Nov. 1.

TOPIC: The Precautionary Principle

Required Reading:

- Steel, D. (2013) 'The Precautionary Principle and the Dilemma Objection', *Ethics, Policy & Environment*, vol. 16(3): 1-20.

Further Reading:

- Burnett, H. S. (2009) 'Understanding the Precautionary Principle and its Threat to Human Welfare', *Social Philosophy and Policy*, vol. 26: 378–410.
- Clarke, S. (2005) 'Future Technologies, Dystopic Futures and the Precautionary Principle', *Ethics and Information Technology*, vol. 7: 121–126.
- Hartzell-Nichols, L. (2013) 'From "the" Precautionary Principle to Precautionary Principles', *Ethics, Policy & Environment*, vol. 16(3): 308-320.
- Steel, D. (2015) *Philosophy and the Precautionary Principle: Science, Evidence, and Environmental Policy*, Cambridge: Cambridge University Press.
- Sunstein, C. (2005) *Laws of Fear*, Cambridge: Cambridge University Press.
- Whiteside, K. (2006) *Precautionary Politics*, Cambridge, MA: MIT Press.

Week 7:

LECTURE 7: Wednesday Nov. 8.

TOPIC: Case Study: Medicine

Required Reading:

- Cartwright, N. and J. Hardie (2012) *Evidence-Based Policy: A Practical Guide to Doing it Better*, Oxford: Oxford University Press, Chs. IV.A-D.

Further Reading:

- Andersen, H. (2012) 'Mechanisms: What Are They Evidence for in Evidence-based Medicine?', *Journal of Evaluation in Clinical Practice*, 18(5):992-999.
- Cartwright, N. (2007) 'Are RCTs the Gold Standard?', *BioSocieties*, vol. 2: 11–20.
- Gillies, D. (2011) 'The Russo–Williamson Thesis and the Question of whether Smoking Causes Heart Disease', in P. M. Illari, F. Russo and J. Williamson (eds.), *Causality in the Sciences*, Oxford: Oxford University Press, pp. 110–125.
- Howick, J. (2011) *The Philosophy of Evidence-Based Medicine*, Chichester: Wiley-Blackwell.
- Illari, P.M. (2011) 'Mechanistic evidence: Disambiguating the Russo-Williamson Thesis', *International Studies in the Philosophy of Science*, vol. 25(2):139-157.
- Reiss, J. (2005) 'Causal Instrumental Variables and Interventions', *Philosophy of Science*, vol. 74: 962–976.
- Worrall, J. (2007a) 'Why There's No Cause to Randomize', *British Journal for Philosophy of Science*, vol. 58: 451–488.
- Worrall, J. (2007b) 'Evidence in Medicine and Evidence-Based Medicine', *Philosophy Compass* 2/6: 981–1022.

Week 8:

LECTURE 8: Wednesday Nov. 15.

TOPIC: Case Study: Climate Science

Required Reading:

- Frigg, R. et al. (2013) 'The Myopia of Imperfect Climate Models: The Case of UKCP09', *Philosophy of Science*, vol. 80(5): 886–897.

Further Reading:

- Bradley, R. and K. Steele (2015) 'Making Climate Decisions', *Philosophy Compass*, vol. 10 (11): 799-810.
- Frigg, R. et al. (2015) 'Philosophy of Climate Science' Parts I & II, *Philosophy Compass*, vol. 10(12): 953–964, 965–977.
- Frisch M. (2013) 'Modeling Climate Policies: A Critical Look at Integrated Assessment Models', *Philosophy and Technology*, vol. 26: 117–137.
- Parker W. S. (2009) 'Confirmation and Adequacy for Purpose in Climate Modelling', *Aristotelian Society Supplementary Volume*, 83(1): 233–249.

- Petersen A. C. (2012) *Simulating Nature: A Philosophical Study of Computer-Simulation Uncertainties and Their Role in Climate Science and Policy Advice*, Boca Raton(FL): CRC Press.
- Risbey, J. and M. Kandlikar (2007) 'Expressions of Likelihood and Confidence in the IPCC Uncertainty Assessment Process', *Climate Change*, 85: 19–31.
- Werndl, C. (2016) 'On Defining Climate and Climate Change', *British Journal for the Philosophy of Science*, vol. 67: 337–364.

Week 9:

LECTURE 9: Wednesday Nov. 22.

TOPIC: Case Study: Politics

Required Reading:

Hix, S. et al. (2010) 'Choosing an Electoral System', *British Academy (Policy Centre) Report*, London: British Academy, Chs. 1-2 and 7.

Further Reading:

- Lijphart, A. (1994) *Electoral Systems and Party Systems: A Study of Twenty-Seven Democracies, 1945-1990*, Oxford: Oxford University Press.
- Lijphart, A. (1999) *Patterns of Democracy: Government Forms and Performance in Thirty-Six Countries*, New Haven: Yale University Press.
- Norris, P. (2004) *Electoral Engineering: Voting Rules and Political Behaviour*, Cambridge: Cambridge University Press.
- Rivest, R. L. and J. P. Wack (2008) 'On the Notion of "Software Independence" in Voting Systems', *Phil. Trans. R. Soc. A*, vol. 366(1881): 3759–3767.
- Stark, P. B. and D.A. Wagner (2012) 'Evidence-Based Elections', *IEEE Security and Privacy*, vol. 10(5): 33-41.
- Taagepera, R. and M. S. Shugart (1989) *Seats and Votes: The Effects and Determinants of Electoral Systems*, New Haven: Yale University Press.

Week 10:

LECTURE 10: Wednesday Nov. 29.

TOPIC: Case Study: Economics

Required Reading:

Lindauer, D. and L. Pritchett (2002) 'What's the Big Idea?: The Third Generation of Policies for Economic Growth', *Economía*, vol. 3(1):1-39.

Further Reading:

- Burnside, C. and D. Dollar (2000) 'Aid, Policies, and Growth', *The American Economic Review*, vol. 90(4): 847-868.
- Easterly, W. (2003) 'Can Foreign Aid Buy Growth', *The Journal of Economic Perspectives*, vol. 17(3): 23-48.
- Heckman, J. and E. Vytlacil (2007) 'Econometric Evaluation of Social Programs', in J. Heckman and E. Leamer (eds.), *Handbook of Econometrics*, vol. 6B, Amsterdam: Elsevier.
- Lucas, R. (1976) 'Econometric Policy Evaluation: A Critique' in K. Brunner and A. Meltzer (eds.), *The Phillips Curve and Labor Markets*, Carnegie-Rochester Conference Series on Public Policy, vol. 1, Amsterdam: North Holland.
- Pritchett, L. (2006) 'Does Learning to Add up Add up? The Returns to Schooling in Aggregate Data', *Handbook of the Economics of Education*, vol. 1: 635-695.
- Reiss, J. (2016) *Error in Economics: Towards a More Evidence-Based Methodology*, London: Routledge.
- Shemilt, I. et al. (eds.) (2010) *Evidence-Based Decision and Economics*, 2nd ed., West Sussex: Wiley-Blackwell.
- Sridhar, D. (2008) *The Battle against Hunger: Choice, Circumstance, and the World Bank*, New York: Oxford University Press.