Syllabus Philosophy of Science 2017/2018 (IBA)

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Course Description   Is business a science? What is it that distinguishes the predictions made by an astrologist from those made by an economist? Does scientific knowledge progress? Does economic theory progress? Are the sciences objective? What is good explanation? When do you have evidence for a hypothesis? Do economic sciences aim at producing true models of things in the world? Or do they aim at providing us with only useful, possibly false, models? In this course, we explore these and related questions, discussing the nature, aims, and limitations of scientific practice with a focus on economics. We shall spend most of our time examining how several inter-related questions about the role of value and rationality in science have shaped, and continue to shape, philosophy of science and also economics since the early 1900s. After this discussion of rationality and value in science, we shall move on to focus on the nature of explanation, and on the relation between truth, evidence and scientific theories.

Are you still wondering why you're taking this course?
Here are five reasons… http://observer.com/2017/05/why-philosophy-majors-make-the-best-entrepreneurs/

Learning Goals   Upon successful completion of the course, you will be able:

- To describe, characterise, and illustrate with examples different views about the demarcation problem, and to provide a reasoned opinion sustained by argument on the demarcation between science, non-science, and pseudoscience.

- To characterise, explain, and bring together Popper's, Kuhn's, Laudan's, Lakatos' and Feyerabend’s views on how science works, and to provide a reasoned opinion sustained by argument on the nature of scientific change.

- To make sense of different views and to provide a reasoned opinion sustained by argument on the role of moral, social, and economic values in science.

- To describe and explain different models of scientific explanation, and to bring together different models of explanation in order to provide a reasoned opinion sustained by argument on the character of good scientific explanations.

- To describe and explain different views on the realism debate in science, and to bring together different arguments from the scientific realism debate in order to provide a reasoned opinion sustained by argument on the aims of science.

- To apply theoretical ideas and empirical findings to the problem of poverty, explaining how poverty can be defined, measured, and targeted.
**Assessment** Your final grade will be determined by:
- One written midterm 35% of your final mark
  Material covered: Lectures 1-7 & tutorial readings & TR Chapters 1-7.
- One written exam 35% of your final mark
- One group video assignment 30% of your final grade
  Material covered: Tutorials 1-6.

There will be a re-examination covering the content of the whole course in Spring. This re-examination will count 70% of the final mark. It will not be possible to resit the group video assignment.

The midterm, the exam, and the re-examination will all have the same format. Each exam will include 3 open-ended question, and 30 multiple choice questions. Each exam will be 3 hours long maximum.

**DISCIPLINARY NOTES**
- Plagiarism will result in failure of the course and disciplinary action.
  https://www.tilburguniversity.edu/students/studying/regulations/fraud/whatisplagiarism.htm

**Text** There is one **required book** for this course:

In our tutorials, we shall work on articles and excerpts from books. All the required articles for the tutorials are available either online, or through the UvT Library WorldCat.

A number of good introductions to the philosophy of science, which you may want to consult, are available in the UvT library. Especially recommend are:

If you want to buy any book, the following classics in the philosophy of science are the choices most likely to be of lasting value:
Lectures.
Schedule, topics, and readings

- 28 August – Lecture 1
  Topic: We shall explain all practical details, and make you realize why taking this course may help you better understand the nature of science and its role in your own life.

  Required readings:  *Theory and Reality* Chapter 1.

  Suggested readings

- 04 September - Lecture 2
  Topic: We shall explore the role of logic and experience in demarcating the sciences, and we shall ask: When are hypotheses like “Lack of education is a cause of poverty” verifiable?

  Required reading:  *Theory and Reality* Chapter 2.

  Suggested readings

- 11 September – Lecture 3
  Topic: We shall explain *The problem of induction*, and we shall ask: How can you provide justification for the belief that scientific inferences are reliable?

  Required reading: *Theory and Reality* Chapter 3
Suggested readings

18 September – Lecture 4
Topic: We shall encounter Karl Popper’s account of how science works, and we shall ask: Why is falsifiability important in science?

Required readings: *Theory and Reality* Chapter 4

Suggested readings

25 September - Lecture 5
Topic: We shall begin to engage with Thomas Kuhn’s account of how science works, and we shall ask: What’s the role of historical and sociological factors in our understanding of how science works?

Required reading: *Theory and Reality* Chapter 5

Suggested readings

02 October – Lecture 6
Topic: We shall continue to engage with Thomas Kuhn’s account of how science works, and we shall ask: How does a scientific revolution look like?

Required reading: *Theory and Reality* Chapter 6
Suggested readings

- 09 October – Lecture 7
Topic: We shall encounter three other philosophers of science: Imre Lakatos, Paul Feyerabend, and Larry Laudan. We shall ask whether there is any such a thing as progress in science.
Required reading: Theory and Reality Chapter 7

Suggested readings

- 23 October – Lecture 8
Topic: We shall look at the notion of social construction in science, and we shall ask: When is it reasonable to say that something like poverty, inflation, or economic bubble really exist?
Required reading: Theory and Reality Chapter 8

Suggested readings

- 30 October – Class 9
Topic: We shall explain what feminism involves, and ask: Do feminist values help us understand how science works? Can they play a positive role in scientific practice?
Required reading: *Theory and Reality* Chapter 9

Suggested readings


- **06 November – Class 10**
  
  Topic: After distinguishing distinct senses of ‘naturalism’ and ‘being natural,’ we shall ask: Can economic principles explain any natural phenomenon?

  **Required readings**: *Theory and Reality* Chapters 10-11.


  **Suggested readings**


- **13 November – Class 11**
  
  Topic: What is the goal of science? Do scientists aim at giving us a true description of reality? Or do they aim at providing us with good tools to predict and control reality? And should you believe everything that our best scientific theories say?

  **Required reading**: *Theory and Reality* Chapter 12

  **Suggested readings**

• 20 November – Class 12
  Topic: What is an explanation? How can you tell whether an explanation is better than another? How does economics explain?

  Required reading: Theory and Reality Chapter 13

  Suggested readings

• 27 November – Class 13
  Topics: Bayesianism and evidence. In the light of the Monty Hall problem, we shall ask: When do we have evidence for a theory or for a belief?

  Required reading: Theory and Reality Chapters 14-15

  Suggested readings
Tutorials/Workgroups. On Poverty

Poverty in the Netherlands

Around 2.5 million people in the Netherlands live below the poverty line. With a population of 17 million, this means around 14%, or one in seven people, lives below the poverty line. The poverty line for the Netherlands is drawn at approximately €1,000 a month for a single individual and up to €1,960 for a couple with two children.

In 2014, 217,000 Dutch households were found to have lived on or below the poverty line for at least four consecutive years.

Those family units most likely to land below the poverty line in the Netherlands are single parents, singles over the age of 65, non-Western households and anyone living solely on social assistance benefits.

To help single parents below the poverty line, the Dutch government affected the Child-Care Schemes Reform Act in 2015. The act provides income specifically for a child or children based on the parent’s income to help offset the considerable cost of rearing children.

Our tutorials will be focused on the topic of poverty. The questions, on which we’ll focus include: Who are the poor? What’s like to be poor? How should poverty be measured? How does poverty affect one’s happiness and mental life? How do economic processes contribute to poverty? Are people from particular racial and ethnic backgrounds or family types inevitably more likely to be poor? What should the goals be of policy interventions on poverty?

We shall address these questions on the basis of the reading and discussion of relevant articles, in-class activities, and in the light of the ideas and theories covered in the lectures.

The tutorials will also give you the opportunity to ask any question about the content of the textbook and of the lectures.

At the end of the tutorials, you will submit a group video assignment on poverty. This assignment will count for 30% of your final grade. It won’t be possible to re-sit it.

Detailed information about the learning goals and procedure for this assignment will be given during our first tutorial.

Please check your schedule online for times and places of the tutorials.
Tutorial 1

**Topic:** What's poverty? Why poverty?
Tutorials overview, your video assignment, and discussion of central themes.

*Background reading*

*Take the Adult Necessities Survey:*
http://www.poverty.ac.uk/take-part/adult-necessities-survey

*Suggested readings and further resources*

Tutorial 2

**Topic:** Who is the poor? Where are the poor?

*Required Reading*
URL=<http://documents.worldbank.org/curated/en/311511468326955970/pdf/818010BRI0EP120Box0379844B00PUBLIC0.pdf>

*Suggested readings and further resources*
The poverty line: URL = http://www.thepovertyline.net/
Europe 2020 indicators - poverty and social exclusion.
The World Bank: "Understanding Poverty" URL:
URL = <http://www.iep.utm.edu/sen-cap/>
Tutorial 3

*Topic: How to measure poverty?*

*Required Reading*


*Suggested readings and further resources*


Tutorial 4.

*Topic: What's like to be poor?*

*Required Reading:


*You should also check out this short video*

The Guardian Report: Poor kids: children describe lives of poverty


*Suggested readings and further resources*

At the turn of the new millennium, the World Bank collected the voices of more than 60,000 poor women and men from 60 countries, in an unprecedented effort to understand poverty from the perspective of the poor themselves. URL = <http://www1.worldbank.org/prem/poverty/voices/Hear_Our_Voices-Eng.rm>


• Tutorial 5
Topics: What causes poverty? How to fight poverty?

Required Reading:

*You should also check out the measures taken against poverty by the European Commission: European platform against poverty and social exclusion. URL = <http://ec.europa.eu/social/main.jsp?catId=961>*

Suggested readings and further resources
- The European Anti-Poverty Network. URL = <http://www.eapn.eu>

• Tutorial 6
You will present your video assignments, and we shall discuss them together.
Topics for your video assignment

1. What is it like to live with €1,25/day?
2. How should we measure poverty?
3. How is poverty in the Netherlands the same as / different from world poverty?
4. Why are people poor?
5. What’s the relationship between poverty and shame?
6. Who are the poor in Tilburg? How should poverty in Tilburg be fought?

Your video should be uploaded on YouTube. http://www.wikihow.com/Upload-a-Video-to-YouTube
You should send me the link to your video via email before the midday of Fri 24 November.
Videos submitted after this date will receive a penalty of 1 point/24 hour delay. So, if you submit your video between the midday of Friday the 24th and the midday of Saturday the 25th, you will receive a penalty of 1 point; if you submit it between the midday of Saturday 25th and Sunday 26th, you will receive a penalty of 2 points, and so forth for every 24-hour delay.

In the email you should include all names and student numbers of the members of your group, and you should also attach a storyboard.

Your video must contain a title, and any copyright credit, as appropriate.
https://www.tilburguniversity.edu/students/studying/university-library/writing-and-information-skills/copyright-information-point/
The style of your video is up to your creativity. Your video may consist of an interview, of a short documentary, of a short lecture similar to a TEDTalk, of a narrative piece, or …

There are only three constraints
Time: Your video should be no longer than 5 minutes.
Topic: Your video should engage with the topic based on the readings you have made. Viewers should learn something from it!
Storyboard*: Along with your video you should create and submit a storyboard.

*A storyboard is an outline of how your video has been progressing. It should detail the content of any meeting you had, including dates and times. It should specify what ideas you discussed in your group, how you proceeded, who did what.

Your video will be evaluated along three main dimensions:
1. Understanding of the topic under discussion. Your video should demonstrate a good understanding of the concepts discussed on the basis of the readings you have made.
2. Clarity. The message of your video should be easy to grasp. Its structure, its language, its sounds and visuals should neatly contribute to the point you’re trying to make.
3. Creativity and originality. Your video should be creative and original. It should provide your own personal perspective on the topic in your own style.

NB For details about grading, you should carefully read the rubric discussed during Tutorial 1 and uploaded on Blackboard under Course Documents.

Resources for making a video There are many online resources providing tips about video making, on possible storytelling techniques, basic video structure, scriptwriting advice, and more. One I personally find helpful is this: http://blog.ted.com/10-tips-for-editing-video/
But there are many more, covering different styles of video-making. Do some research!
For technical tips and editing, there are many free websites and apps. This may be a place to start searching: https://www.theguardian.com/technology/2016/jul/17/20-best-apps-making-videos
Tilburg University also provides AV support: https://www.tilburguniversity.edu/students/it/av/