HUM-429 **Philosophy of life sciences I**

Sachse Christian

Cursus	Sem.	Type
Humanities and Social Sciences	MA1	Obl.
UNIL - Autres facultés	H	Opt.

Language of teaching	English
Credits	3
Session	Winter
Semester	Fall
Exam	During the semester
Workload	90h
Weeks	14
Hours	**3 weekly**
Courses	2 weekly
Project	1 weekly
Number of positions	**60**

Summary

Understand and discuss central issues in the philosophy of life sciences, e.g. that of reductionism or why free will might be an illusion. Transpose problems and arguments from one debate to another. Evaluate the impact of the scientific worldview to the proper understanding of our human nature.

Content

Focus of the lectures: Challenges of Darwinism, physicalism, reductionism, and determinism

- Science vs religion
- Notion of biological function and dysfunction
- Reductionism in the life sciences
- Boundaries of biological individuals and species
- Dilemma for free will in a physical world
- New paradigm of complex systems

In terms of questions ...
Where lies, if at all, the conflict between evolutionary theory and religion? What does "dysfunction", what does "normal" may mean? Do they exist in nature? What is the relationship between biology and the microphysical world and that of different theories? What makes us a biological individual, how to define our species? Are we free to break the laws of nature or are we entirely determined by physical properties and laws?
These questions, among many others, will be tackled in the philosophical reflection on the life sciences offered by this master module. Reflecting on these issues provides intellectual tools for a better understanding of today's science and technologies.

Keywords

Evolutionary theory, Function, Laws of nature, Completeness of phyics, Reductionism, Emergentism, Pluralism, Explanatory autonomy, Natural kinds, Free will, Determinism, Indeterminism, Complex systems
POLY-perspective :

- interdisciplinary perspective
- citizen perspective

https://www.epfl.ch/schools/cdh/cdhs-vision/

Learning Outcomes

By the end of the course, the student must be able to:

- Synthesize philosophical debates and problems.
- Analyze philosophical texts on your own.
- Assess / Evaluate arguments and positions during the course discussion.
- Assess / Evaluate arguments and positions on your own in written form.
- Critique the position of others (students/teacher).
- Develop your own approach to a philosophical debate.
- Transpose arguments and problems from one debate to another.
- Generalize particular problems and arguments.

Transversal skills

- Set objectives and design an action plan to reach those objectives.
- Plan and carry out activities in a way which makes optimal use of available time and other resources.
- Use a work methodology appropriate to the task.
- Evaluate one's own performance in the team, receive and respond appropriately to feedback.
- Assess one's own level of skill acquisition, and plan their on-going learning goals.
- Take feedback (critique) and respond in an appropriate manner.
- Write a literature review which assesses the state of the art.
- Summarize an article or a technical report.

Teaching methods

In **autumn** term:
Lecture/Seminar (English) + **Supervision** (English/French/German) of the elaboration of a research project plan.
In **spring** term:
Supervision of projects + **Presentation/Discussion** of your research projects.
(More information and the precise schedule are provided at the beginning of the academic year)

Expected student activities

In **autumn** term:
The official workload of 90h (for the SHS program) are in fact required for good results, results obtained by:
Active participation at the lecture/seminar (preparation of each course; being capable of participating in the discussion).
Passing a test that is about the topics of the lecture/seminar (passing the test requires a good understanding of all topics of the lecture/seminar).
Forming a small group for the elaboration of a research project plan that is linked to at least one issue of the lecture/seminar (for instance your position w.r.t. the definition of our species).

In **spring** term:
Realisation of the research project that requires notably a critical lecture of articles and books (mostly in English), high level writing skills, working discipline and time management (the official workload of 90h for the SHS program are in fact required for good results).

(More information and the precise schedule are provided at the beginning of the academic year)

Assessment methods

Evaluation on a semester basis (grade associated to **3 ECTS**).

In **autumn** term:
1) Result of the test + 2) Quality of the research project plan of your group.

In **spring** term:
Realisation of the philosophical research project (**group essay**) **according to the schedule and general**

philosophical standards + Presentation of the project.

(More information on philosophical standards and the precise schedule for the spring term are provided at the beginning of the academic year and during supervision of the project plan)

Supervision

Office hours	Yes
Assistants	No
Forum	No
Others	More information about the supervision are provided at the beginning of the academic year.

Resources

Bibliography

• Sober, Elliott (2000): *Philosophy of biology*. Boulder: Westview Press.

• Ariew, André & Cummins, Robert & Perlman, Mark (eds.) (2009): *Functions. New essay in the philosophy of psychology and biology*. Oxford: Oxford University Press.

• Kim, Jaegwon (2005): *Physicalism, or something near enough*, Princeton: Princeton University Press.

• Bouchard, Frédéric & Huneman, Philippe (eds.) (2013): *From groups to individuals. Evolution and emerging individuality.* Cambridge (Mass.): MIT Press.

• Kane, Robert (ed.) (2011): *The Oxford Handbook of free will*. Oxford: Oxford University Press.

(Other books and supplementary articles are proposed at the beginning of the academic year)

Ressources en bibliothèque

- Functions : new essays in the philosophy of psychology and biology / edited by André Ariew, Robert Cummins and Mark Perlman
- Philosophy of biology / Elliott Sober
- Physicalism, or something near enough / Jaegwon Kim
- The Oxford handbook of free will / ed. by Robert Kane
- From groups to individuals : evolution and emerging individuality / ed. by Frédéric Bouchard ... [et al.]

Notes/Handbook

The support for each lecture will be provided during the term (pdf sent by e-mail directly to the students of the course).