# lsc2220

*2020*

# Philosophy of science



Due to the COVID-19 crisis, the information below is subject to change, in particular that concerning the teaching mode (presential, distance or in a comodal or hybrid format).

| 2 credits | 30.0 h | Q2 |
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| Teacher(s) | Guay Alexandre ;Verdée Peter (compensates Guay Alexandre) ; |
| Language : | English |
| Place of the course | Louvain-la-Neuve |
| Aims | 1. The aim of the course is to invite Master students in science to reflect on some of the current central themes in the philosophy of science, which are related to their interests and the scientific discipline in which they have specialised. They will have to analyze, alone or in a group, a specific philosophical issue that they will choose in relation to the themes addressed in the classroom lectures. Students will have to convey the results and conclusions of their investigations in a written essay as well as through an oral presentation. <br><br> - - - - <br> *The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".* |
| Evaluation methods | **Due to the COVID-19 crisis, the information in this section is particularly likely to change.** <br> The evaluation consists of two elements: a written exam (50% of the final grade) and an oral presentation in small groups (50%). <br><br> During the second session, the evaluation consists of an exam (50%) plus the presentation grade (50%). If the presentation grade is absent or has already been included in the June evaluation, this grade will be replaced by a personal research essay. Note that it is possible to make the presentation during the semester, asked for a presence grade in June and therefore use the presentation grade in the September evaluation. |
| Teaching methods | **Due to the COVID-19 crisis, the information in this section is particularly likely to change.** <br> The first part of the course consists in lectures on the three themes. In the meantime, students will register on the course's website and form teams of maximum three members. Each team will choose a presentation subject in relation with one of the themes. The subject, the related list of references and the oral presentation plan will have to be approved by the professor. He shall be available to help students develop their presentation. The second part of the class will be devoted to the oral presentations. The final exam will cover all lectures and presentations. |
| Content | The three themes for 2020-21: <br><br> 1. Scientific realism. To what extent can we consider our best scientific theories as correct descriptions of the world? <br> 2. Scientific explanation. What is a scientific explanation? What is its function? <br> 3. Limitative theorems in mathematics and computer science. What are the consequences of famous limitative theorems (Gödel's incompleteness results, Church's undecidability theorem, halting problem, Löwenheim-Skolem theorem, Tarski's undefinability theorem) for the philosophy of science and mathematics? |
| Inline resources | See course Moodle site. |
| Bibliography | Voir site Moodle du cours. |
| Faculty or entity in charge | SC |

| Programmes containing this learning unit (UE) | | | | |
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| Program title | Acronym | Credits | Prerequisite | Aims |
| Master [60] in Geography : General | GEOG2M1 | 2 | | 🔍 |
| Master [120] in Data Science : Statistic | DATS2M | 2 | | 🔍 |
| Master [120] in Mathematics | MATH2M | 2 | | 🔍 |
| Master [120] in Biology of Organisms and Ecology | BOE2M | 2 | | 🔍 |
| Master [120] in Geography : Climatology | CLIM2M | 2 | | 🔍 |
| Master [60] in Biology | BIOL2M1 | 2 | | 🔍 |
| Master [120] in Chemistry | CHIM2M | 2 | | 🔍 |
| Master [120] in Geography : General | GEOG2M | 2 | | 🔍 |
| Master [60] in Physics | PHYS2M1 | 2 | | 🔍 |
| Interdisciplinary Advanced Master in Science and Management of the Environment and Sustainable Development | ENVI2MC | 2 | | 🔍 |
| Master [60] in Mathematics | MATH2M1 | 2 | | 🔍 |
| Master [60] in Chemistry | CHIM2M1 | 2 | | 🔍 |
| Master [120] in Biochemistry and Molecular and Cell Biology | BBMC2M | 2 | | 🔍 |
| Master [120] in Physics | PHYS2M | 2 | | 🔍 |
| Master [60] in Philosophy | FILO2M1 | 2 | | 🔍 |
| Master [120] in Statistic: General | STAT2M | 2 | | 🔍 |
| Master [120] in Philosophy | FILO2M | 2 | | 🔍 |
| Master [120] in Statistic: Biostatistics | BSTA2M | 2 | | 🔍 |
| Master [120] in Environmental Science and Management | ENVI2M | 2 | | 🔍 |