## WESTERN UNIVERSITY DEPARTMENT OF PHILOSOPHY Undergraduate Course Outline 2021-22

Philosophy 4311G: Topics in Philosophy of Science: Physics and Reality

Winter 2022 W 11:30-2:30 UC 3225 Instructor: Robert DiSalle Office: Stevenson Hall 4141 Office Hours: M 10:00-11:30 AM (And by appointment)

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### **DESCRIPTION**

Theoreticalphysicstodaypursues taskbegunby Galileo, Huygens, and Newtonin the 17th century: to understand the physical actions of matter through mathematical aws. The philosophical questions that they raised in this pursuit continue to influence physical inquiry. This course will study some metaphysical issues regarding the character of theoretical physics as a representation of the physical world: the nature of theories and theoretical entities, the application of mathematics to the world, the role of conventions and, generally, the progress (if any) of science from Newtonto the present method and in grasp of "the nature of things". No special background physics or mathis presupposed ut some central ideas will be introduced in an intuitive way. Texts to be studied include works by Newton, Huygens, Maxwell, Poincaé, Einstein, Weyl, and Bohr, as well as contemporary literature

#### **TEXTS**

All reading (articles or excerpt from books) will be posted under "Resource's on the course OWL site.

## **OBJECTIVES**

- 1. To graspsomeof the most important philosophical problems that have played a role in the history of physics
- 2. To understandhow philosophical inquiry has influenced the development and the interpretation of science

Department Philosophy websitat <a href="http://uwo.ca/philosophy/undergraduate/policies.html">http://uwo.ca/philosophy/undergraduate/policies.html</a> It is your responsibility to understand he policies set out by the Senatæand the Department Philosophy, and husignorance f these policies annot be used as ground of appeal.

# **ACCOMMODATION**

Studentsseekingacademic accommodation medical grounds for any missed tests, exams, participation components and/orassignments worth 10% or more of their final grademust apply to the Academic Counselling office of their home Faculty and provided ocumentation. Academic accommodation cannot be granted by the instructor or department. Documentation shades submitted, as soon as possible, to the Office of the Dean of the student's Faculty of registration, together with a requestor relief specifying the nature of the accommodation being requested. The UWO Policy on Accommodation for Medical Innessand further information garding this policy can be found at

http://uwo.ca/univsec/pdf/academic\_policies/appeals/accommodation\_medical.pdf

## SELF- REPORTED ABSENCE FORM

Studentswho experiencænunexpecteidlinessor injury or an extenuating circumstanc 48 hours or less) that is sufficiently severeto temporarily render the munable to meet a cademic equirements (e.g., attending lectures or labs, writing tests or midter exams, completing and submitting assignments participating in presentations hould self-declare using the online Self-Reported Absence portal. This option should be used in situations where the student expects to resume academic responsibilities within 48 hours or less.

The following conditions are inplace for selfreporting of medical or extenuating circumstances: <a href="http://westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#SubHeading 322">http://westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#SubHeading 322</a>

#### **EVALUATION OF ACADEMIC PERFORMANCE**

At leastthreedaysprior to the deadline for withdrawal from a course without academique nalty, students will receive assessment work accounting or at least 15% of their final grade. For 3000-or 4000 level courses in which such a grade dassessments impracticable, the instructor (s) must obtain an exemption from this policy from the Dean and this exemption must be noted on the corresponding ours syllabus. In rare instances and at the Dean's discretion, other courses could receive a similar exemption, which also must be noted in the cours syllabus.

## **COURSE ASSIGNMENT**

The last day of scheduled classes in any coursewill be the last day on which course assignments will be accepted or creditin a course Instructors will be required to return assignments of students as promptly as possible with reasonable explanations of the instructor's assessment of the assignment.

## **ACADEMIC OFFENCES**

Scholastioffencesare takerseriously and students are directed or readthe appropriate policy, specifically, the definition of what constitutes Scholastio Offence, at the following Website: <a href="http://www.uwo.ca/univsec/pdf/academic\_policies/appeals/scholastic\_discipline\_undergrad.pdf">http://www.uwo.ca/univsec/pdf/academic\_policies/appeals/scholastic\_discipline\_undergrad.pdf</a>

#### PLAGIARISM CHECKING

All requiredpapersmay be subject to submissior for textual similarity review to the commercial

plagiarismdetectionsoftwareunderlicenseto the University for the detection of plagiarism. All paper submitted for such checking will be included as sourced ocument in the reference database for the purpose of detecting plagiarism of paper subsequently ubmitted to the system Use of the service is subject to the licensing agreement currently between The University of Western Ontario and Turnitin.com <a href="https://www.turnitin.com">http://www.turnitin.com</a>

### **SUPPORT SERVICES**

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Students who are in emotional/mental distress should refer to Mental Health@Western <a href="http://www.uwo.ca/uwocom/mentalhealfb/">http://www.uwo.ca/uwocom/mentalhealfb/</a> a complete of options about how to obtain help. Immediate help in the event of a crisis can be had by phoning 519.661.303 (during class hours) or 519.433.2023 after lass hours and on weekends.