

PHI 520: LOGIC: NON-CLASSICAL LOGICS

General Information Spring 2019

Note: Students who have taken PHI 340 Philosophical Logic should not take this course. By decree of the Office of the Dean of the College, undergraduates are no longer permitted to enroll in graduate courses, but if willing to undertake the paperwork may propose a reading course with identical content and the instructor will sign off on it.

Time & Place	FRI 10:00-12:50	201 Marx Hall
Instructor	John Burgess	
Office Hours	FRI 1:00-3:00 & by appointment	
Office	224 1879 Hall	
e-Mail & v-Mail	jburgess@princeton.edu	8-4310

Readings: The textbook is J. Burgess, *Philosophical Logic*, soft-cover edition. A list of errata can be downloaded at <http://www.princeton.edu/~jburgess/problemata.html> .

Schedule: After an introductory lecture on material from classical logic we will devote two sessions to each of the five non-classical logics, corresponding to chapters 2-6 of the text: temporal, modal, conditional, relevantistic, intuitionistic. A guest speaker Jc Beall will lecture at the next-to-last session on a sixth: paraconsistent. *See also the Syllabus below.*

Problems: Logic is a subject only learnt through working problems. A list of problems is at <http://www.princeton.edu/~jburgess/problemata.html>. For each chapter, problems 1-6 are matters “left to the reader” in the text and will be discussed by the instructor. The student’s choice of five out of the six problems 7, 9, 11, 13, 15, 17 are to be written up as homework. Sets will be due the TUE after the second session devoted to a topic. A last synoptic set will be due on “Dean’s Date”, which this year falls on APR 14. Electronic submission in .pdf format is expected: typed versions are preferred, but a scan of handwritten version will be acceptable. A single sheet of general comments on the problems will be distributed to the class when papers are graded.

Acknowledgments: Collaboration before oral in-class presentations is permitted and encouraged. Written assignments are to be non-collaborative. Undergraduates should end their papers with the words “This paper represents my own work in accordance with University regulations”, the regulations in question being found in *Rights, Rules, and Responsibilities*.

Class presentations: Problems 8, 10, 12, 14, 16 will be discussed in the last hour of the second session devoted to a topic, with student presenters assigned the week before.

Office Hours: Students, especially those with an upcoming presentation assignment, are encouraged to make use of office hours, resorting to e-mail only if face-to-face meeting is impossible (because generally a good deal of back-and-forth will be called for).

Grading: Only undergraduates in a parallel reading course are officially assigned grades. A graduate student seeking to fulfill the logic requirement or accumulate a “unit” in logic under the department’s plan for pre-generals students must, by department policy, do work that would earn an undergraduate a B+. All problems will count equally, and a score for class performance will count equally with a full problem set. Percentages will be calculated, but the exact conversion of numerical percentages to letter grades will be made only after the distribution of percentages is known, though it can be said in advance that the target will be cut-offs of 90% for the A range, 80% for the B range, and so on, with the top

quarter of the range getting a plus and the bottom quarter a minus. A student who wants feedback before the end of the shopping period may submit a partial first assignment in advance for comment.

Lateness Penalties & Extensions: There is a grade penalty of 1 point (on a scale of 100) per weekday to a maximum of 10 (or one full letter, e.g. from A- to B-) for unexcused lateness. For undergraduates, when extensions are sought on medical grounds, a confirmation from University Health Services should be presented. Extensions for foreseeable reasons (such as scheduled extra-curricular activities requiring the student to be off-campus) should be sought in advance. Note that “Dean’s Date” is so called because only deans can grant extensions past that date; individual faculty may not do so on their own authority; please don’t even ask until you have spoken with your academic dean.

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Week-by-Week Syllabus Spring 2019

- 08 FEB Organizational matters. Introduction. Brief review of classical logic (see chapter 1 of the textbook), beginning of discussion of **temporal logic** (see chapter 2).
- 15 FEB End of discussion of temporal logic. Student presentations of practice problems. First problem set due TUE 19 FEB.
- 22 FEB Beginning of discussion of **modal logic** (see chapter 3).
- 01 MAR End of discussion of modal logic Student presentations of practice problems. Second problem set due TUE 05 MAR.
- 08 MAR Beginning of discussion of **conditional logic** (see chapter 4).
- 15 MAR End of discussion of conditional logic. Student presentations of practice problems. Third problem set due TUE 26 MAR (*after spring recess*).
- 29 MAR Beginning of discussion of **relevantistic logic** (see chapter 5).
- 05 APR End of discussion of relevantistic logic. Student presentations of practice problems. Fourth problem set due TUE 09 APR.
- 12 APR Beginning of discussion of **intuitionistic logic** (see chapter 6).
- 19 APR End of discussion of intuitionistic logic. Student presentations of practice problems. Fifth problem set due TUE 23 APR.
- 26 APR Guest lecture by Jc Beall (UConn) on a topic in paraconsistent logic.
- 03 MAY Further non-classical logics (list TBA) briefly discussed. Synopsis and conclusion. Last problem set due TUE 14 MAY (“Dean’s Date”)