

Philosophy 4515 (Advanced Logic) Syllabus

January 10, 2017

1 Instructor Information

Branden Fitelson
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hours: 11:45-1:15 Friday
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www: <http://fitelson.org/>

 *The best way to reach me is via email (I check it often).*

2 Course Materials

 *All reference materials for this course will be made available (gratis) via the course website.*

Specifically, I will post all readings, lecture notes, and handouts on our Course Materials page, at:

<http://fitelson.org/allogic/materials.html>

All materials will be posted in Adobe PDF format, and will require software that can view/print PDFs (*e.g.*, Adobe Acrobat).

3 What, When, Where, Why?

Philosophy 4515 consists of two 100-minute lectures per week [1:35-3:15 TF in Hastings Suite 104]. Because the course will move at a rather brisk pace (especially, after the first couple of weeks), ***I strongly encourage regular attendance of my lectures.*** The objective of this course is to master some more advanced topics in deductive logic (ultimately, from a more computational perspective). My lectures will usually be rather closely tied to the background readings. And, if you are able to solve all the exercises in the readings, then you should do pretty well on the homeworks and the exams, because:

 *The vast majority of homework & exam exercises will be taken directly from the readings.*

4 Grades, Assignments, Exams, and all that...

4.1 The Basic Structure of the Course

We will have (i) bi-weekly homework assignments, (ii) a mid-term examination, (iii) a final examination, and (iv) sporadic TurningPoint Cloud in-class quizzes (see section 6 below for details regarding TurningPoint Cloud). All Assignments and (sample) Exams will be posted at:

<http://fitelson.org/allogic/assignments.html>

Your final grade in the course will be broken down as follows:

- 25% Homework Average (with lowest score dropped)
- 33% Mid-Term Exam
- 33% Final Exam
- 8% Class Participation (based on ungraded TurningPoint Cloud in-class quizzes)

We will be grading “on a curve” which means that a $\frac{65}{100}$ might end-up being a “B,” depending on how the class does (statistically). After each grading episode, I will try to give you a rough idea of where “A”s, “B”s, etc. would fall on our numerical scale for each assignment/exam (as well as cumulatively). The TurningPoint Cloud in-class quizzes will not be graded, but they will be used to determine how much you’ve participated in class.

4.2 Details about the (Bi-Weekly) Homeworks

Every other Friday, I will assign some exercises (usually from some of our online materials) as homework. All assignments will be posted prior to class on our assignments page (and on Blackboard). These exercises will be due (electronically, *via* Blackboard) two weeks later (on Friday). We will aim to post grades (on Blackboard) on the Tuesday immediately after the due date. We will also post detailed solutions for each assignment. The lowest homework score will be dropped, but...

 *Late homeworks will not be accepted.*¹

4.3 Group Work and Individual Work

We *urge* people to work in groups on homework assignments. In fact, we will award bonus points to people who work in groups on homeworks. See the separate “Working in Groups” handout:

<http://fitelson.org/alogic/groups.html>
or
<http://fitelson.org/alogic/groups.pdf>

for all of the rules, regulations, and details concerning group work. Make sure to read that document carefully.

5 Tentative Course Schedule

Because we are not using a textbook, the course will evolve dynamically as the semester unfolds (especially, in Part II). Keep a close eye on the course Home Page for announcements about the course schedule (and other developments pertinent to the course). Aside from making announcements in lectures (and sometimes *via* email/Blackboard), our Home Page will be the mechanism by which I will keep you informed as to where we are in the course (and where we’re going next).

<http://fitelson.org/alogic/index.html>

Basically, my plan is to cover (1) monadic predicate logic (from a semantic perspective), and (2) relational predicate logic (from a semantic perspective), (3) natural deduction reasoning for both propositional and predicate logic, and (4) computational methods for reasoning in both propositional and predicate logic (*i.e.*, resolution and unification). Depending on how fast we go, we may also cover (5) some meta-theoretic results (*e.g.*, soundness, completeness, decidability, *etc.*). This is my first time teaching this course (as a follow-up to my *Introduction to Logic* course), so to some extent we’ll be “playing it by ear.”

6 Blackboard & TurningPoint Cloud/ResponseWare

I have created a Blackboard site for the course. It will be used only for keeping track of assignments (which will all be turned in electronically) and grades. All other course information/materials will be posted on our official course website, above. Using your NUID, you should already be able to login to our course Blackboard site. I have also linked our Blackboard site to TurningPoint Cloud (I will be using it regularly for in-class surveys/quizzes, which will be used to determine participation scores for the course). You should make sure to download TurningPoint Cloud, and subscribe to TurningPoint ResponseWare. For instructions, see:

<http://bit.ly/TurningPointCloud>

7 Class Email List

I will also maintain a class email list, which I will use from time to time to disseminate information to the class as a whole. Please make sure that the email address you have recorded in Blackboard is one that you check regularly.

8 Logic Software

There are various useful software applications available for both (1) natural deduction, and (2) resolution & unification [*i.e.*, topics (3) and (4) above]. I recommend that people make use of such applications. I will be discussing these computational tools in more detail when we get to topics (3) and (4).

¹Exceptions will be made only in cases where a legitimate excuse or extenuating circumstance exists.