Course Outline: Philosophy 352
Introduction to Symbolic Logic

Department of Philosophy
University of Regina

2012-01-04

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Office: AH 410.1,

Office Hours: Thursday 1:00–2:00
If you cannot see me at this time, send me an Email and we will make other arrangements.

1 Textbook

The Logic Book with on line solutions, by Bergmann, Moor, Nelson McGraw-Hill, fifth edition.

2 Requirements

1. Mid-Term 1, 20%
2. Mid-Term 2, 30%
3. Final Exam, 50%
4. Should you be unable, for whatever reason, to write a midterm(s), the weight of the respective midterm(s) will be added to the weight of the final exam.
5. In order to pass the course it is necessary that you pass the final exam, that is, it is necessary that you receive a grade of 50% or more.
6. Regular attendance.

3 Notational Deviations from the Textbook

3.1 Symbols for the Meta-variables

The book uses upper case bold face letters from the English alphabet as meta-variables. The meta-variables are *place-holders* for the well formed formulas of the formal language $\mathcal{L}$ of Logic. Instead of upper case bold face letters from the English alphabet we shall use lower case letters from the Greek alphabet. That is, we shall use lower case letters from the Greek alphabet as *place-holders* for well formed formulas. Some of the lower case Greek letters that we will use are:

1. α (Alpha)

2. β (Beta)
3. γ (Gamma)
4. φ (Phi)
5. ψ (Psi)
6. χ (Chi)
7. δ (Delta)
8. θ (Theta)
9. λ (Lambda)
10. μ (Mu)
11. π (Pi)

Occasionally we will use the following upper case Greek letters to denote *sets* of well-formed formulas:

1. Γ (Gamma)
2. Δ (Delta)
3. Σ (Sigma)
4. Θ (Theta)

3.2 Logical Connectives

Book	We use	Formal Name	Name when $\mathcal{L}$ is interpreted
&	$\wedge$	*wedge*	*conjunction symbol*
$\vee$	$\vee$	*vee*	*disjunction symbol*
$\sim$	$\neg$	*hook*	*negation symbol*
$\supset$	$\Longrightarrow$	*arrow*	*conditional symbol*
$\equiv$	$\Longleftrightarrow$	*doublearrow*	$bi-conditional\ symbol$

3.3 Syntactic Equivalence

The book uses the symbols $\dashv\vdash$ to denote syntactic equivalence. (See Rules of Replacement). We shall use instead the symbols $\vdash\dashv$.

3.4 Sentences versus Proposition

There is an old dispute among philosophers concerning what entities can have truth values. Some philosophers speak of meaningful *declarative sentences* as being true or false. Others avoid such talk and consider *propositions* — the thought or idea expressed by meaningful declarative sentences — to be true or false. For our purposes we can remain neutral on this issue and we shall use 'sentence' and 'proposition' interchangeably. The same holds for 'sentential logic' and 'propositional logic'.

3.5 Truth values

The book uses T and F to denote the truth values of **true** and **false** sentences/propositions respectively. However, we shall use 1 and 0 instead.

3.6 Falsum

We shall also use a symbol, which the book does not use but which will prove to be very convenient. It is the symbol $\perp$, called the **falsum**. The **falsum** is a special atomic well formed formula (wff) of our formal object language. This symbol $\perp$ does not change under an interpretation and is, besides being a wff, also a *logical constant*. As the name suggests, its truth value is always false, that is, 0.

4 Course Content

1. Chapter 1
2. Chapter 2
3. Chapter 3
4. Chapter 5
5. Chapter 7
6. Chapter 8
7. Chapter 10

5 Further Information

I will provide you with further information through my web page. The URL is

http://phil.uregina.ca/korte/

Certain links will be password protected. I am currently constructing parts of my web page pertaining to this course. I will provide you with the user name and the password next week.

My Email address is:

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When you send me an Email, please make sure to specify the subject of your Email simply as:

phil352