Course: FIL 3001000 – Logic
Prof. Jonas R. Becker Arenhart
Wednesdays, 14h00-18h00

- Course description

This is an introduction to the metatheory of both the sentential calculus and of the first-order calculus. We will study the completeness theorem for sentential and first-order calculi. Other important metatheorems that will be studied are the Compactness theorem, Downward and Upward Löwenheim-Skolem theorems. Philosophical arguments related to these results will also be considered.

- Textbook

Our basic textbook will be the following:

Robert Rogers, 1971, *Mathematical Logic and Formalized Theories*. Amsterdam: North Holland.

Other material will be suggested during the course. Lists of exercises will also be provided during the course.

- Grading

Grades come from 1) lists of exercises and 2) two written exams.

$$\text{Final grade} = \frac{(\text{exercises} + \text{tests})}{3}$$

- Practical information

The course will be given in English. If there are only Portuguese-speaking students, however, then the course will be given in *Portuguese*.

- Schedule

The schedule of written exams will be available in the first class.

- Secondary references

Elliott Mendelson, 2010. *Introduction to Mathematical Logic.* Fifth Edition. CRC Press.

Theodore Sider, 2010. *Logic for Philosophy*. Oxford: Oxford Un. Press.

Tim Button, Sean Walsh. 2018. *Philosophy and Model Theory*. Oxford: Oxford Un. Press.