

Informatics in Cognitive Science II

INTRODUCTION

NAIL088

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Course organization

- Lectures – outline in next slide
- Lab-work - 3 sessions
- Paper presentations
- This semester will be focused more on cortical processing
- Participation in one experiment (details TBA)
- We will cover most of the most important topics, but there will be bias towards Vision

Outline - Prednasky

- 27.2. Sub-cortical vision, color, binocularity
- 6.3. Medium-to-high level vision
- 13.3. Computational modelling: system identification
- 20.3. Computational modelling: dynamical modelling
- 27.3. Development and learning
- 3.4. Buffer (test)
- 10.4. Motorika I
- 17.4. Hippocampus I
- 24.4. Hippocampus II
- 15.5. Learning
- 22.5. Cognitive theories of multimedia learning

+ 3 session with Kamil Vlcek on *methodology of neurobiology; memory; spatial cognition*

Lab work

- Developmental models of primary visual cortex in *Topographica* (3 sessions)



- Paper presentations (1-2 sessions, can be in exam period)

Conditions for passing the course

- Active participation in class and lab-work
- Participation in psychophysics experiment
- Written test – 2 neuro-anatomy chapters from the Bear book
 - Chapter Chapter 7, plus pages 205-248, minus cranial nerves, blood supply, brain stem nuclei
 - Oral test – 2 chapters of choice from Bear book, from chapters 8+
- 15 minute presentation of a paper review