האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

# *The Hebrew University of Jerusalem*

## *Syllabus*

# *ADVANCED COGNITIVE PROCESSES - 76913*

*Last update 19-10-2016*

*HU Credits: 2*

*Degree/Cycle: 2nd degree (Master)*

*Responsible Department: brain science: computation & information proc.*

*Academic year: 0*

*Semester: 1st Semester*

*Teaching Languages: English*

*Campus: E. Safra*

*Course/Module Coordinator: Prof. Merav Ahissar*

*Coordinator Email: msmerava@mscc.huji.ac.il*

*Coordinator Office Hours: By appointment*

*Teaching Staff:*

*Prof Merav Ahissar*
*Ms. Eva Kimel*

*Course/Module description:*
*We shall discuss current issues in Cognitive science*

*Course/Module aims:*
*Presenting recent topics in Cognition, critical reading and discussions, including in writing, of open questions in Cognition*

*Learning outcomes - On successful completion of this module, students should be able to:*
*Understanding of current topics in Cognitive Sciences with emphasis on short and long term memory, statistical learning and rule acquisition, language, decision making, Bayesian inference and skill acquisition*

*Attendance requirements(%):*
*82% (9 out of 11 meetings)*

*Teaching arrangement and method of instruction: Oral presentations and discussions, written homework assignments and students' presentations*

*Course/Module Content:*
*The goal of this course is to introduce its participants to current issues in the field of Cognition. We will experience the complexity of classical and recent studies, integrate their results, and discuss implications and perspectives.*
*As part of the learning, we will replicate and analyze a few studies, among which: Assessing the huge capacity of long term memory, measuring statistical learning of simple sequences and evaluating implicit rule learning. We will explore the relation between these basic skills and intelligence, language acquisition and decision making.*
*We shall also discuss recent views of Bayesian inference (the computational version of Helmholtz's implicit inference view from the 19th century) and their contribution to solving classic and recent puzzles (babies' "boot strap" of understanding the world; phenomenology of neurological patients), including the notion of Predictive Coding.*
*This course is the second of a two-part sequence required of students in ELSC. More details can be found on the course website.*

*Required Reading:*
*Is updated on the course's website (moodle)*

*Additional Reading Material:*
*Is updated on the course's website (moodle)*

*Course/Module evaluation:*
*End of year written/oral examination 0 %*
*Presentation 10 %*
*Participation in Tutorials 10 %*
*Project work 0 %*
*Assignments 80 %*
*Reports 0 %*
*Research project 0 %*
*Quizzes 0 %*
*Other 0 %*

*Additional information:*