האוניברסיטה העברית בירושלים
THE HEBREW UNIVERSITY OF JERUSALEM

The Hebrew University of Jerusalem

Syllabus

THE NATURE AND NURTURE OF THE SOCIAL BRAIN - 51631

Last update 09-10-2016

HU Credits: 2

Degree/Cycle: 1st degree (Bachelor)

Responsible Department: psychology

Academic year: 0

Semester: 1st Semester

Teaching Languages: English

Campus: Mt. Scopus

Course/Module Coordinator: Dr. Salomon Israel

Coordinator Email: salomon.israel@mail.huji.ac.il

Coordinator Office Hours: To be determined (will be update before the beginning of 2nd semester)

Teaching Staff:
Dr.

Course/Module description:
People are not blank slates, nor are they determined by their genes. We will survey recent studies showing how nature and nurture interplay to influence our political, social, and economic behaviors.

Course/Module aims:
Provide an overview of different methods for examining genetic effects for complex behaviors, focusing on twin models and molecular genetic techniques.

Provide an overview of how genes and the environment interplay to influence social behaviors.

Highlight candidate biological systems involved in human social behavior.

Connect biological processes to relevant social domains e.g. politics, economics, criminal offending.

Learning outcomes - On successful completion of this module, students should be able to:
Describe methods for estimating the heritability of a behavioral trait

Categorize the different ways in which genetic and environmental factors may correlate or interact

Identify biological systems involved in social behavior, and describe how genetic variants associated with these systems contribute to individual differences in social behavior

Describe processes in which social experiences influence gene expression

Briefly summarize the main aspects of a behavioral genetics paper (method, results, implications on the field)

Attendance requirements(%):
Students are expected to attend lectures, although attendance will not be checked

Teaching arrangement and method of instruction: Frontal lectures

Course/Module Content:
Topics covered in the course:
The twin method

Basics of molecular genetics

Gene environment interactions and correlations

Prosociality- oxytocin and vasopression

Aggression

Politics

Biological embedding of experience (epigenetics and gene expression)

Telomeres, stress, and aging

Psychopathology

Genome-wide association studies (GWAS)

Required Reading:
Caspi, A., McClay, J., Moffitt, T. E., Mill, J., Martin, J., Craig, I. W., ... & Poulton, R. (2002). Role of genotype in the cycle of violence in maltreated children. Science, 297(5582), 851-854.
Belsky, J., Bakermans-Kranenburg, M. J., & Van IJzendoorn, M. H. (2007). For better and for worse differential susceptibility to environmental influences.Current Directions in Psychological Science, 16(6), 300-304.
Dickerson, S. S., & Kemeny, M. E. (2004). Acute stressors and cortisol responses: a theoretical integration and synthesis of laboratory research.Psychological bulletin, 130(3), 355.
Grandma's experience leaves a mark on your genes

http://discovermagazine.com/2013/may/13-grandmas-experiences-leave-epigenetic-mark-on-your-genes
Epel, et al., (2004). Accelerated telomere shortening in response to life stress. Proc Natl Acad Sci U S A, (17312-17315)
Kosfeld, M., Heinrichs, M., Zak, P. J., Fischbacher, U., & Fehr, E. (2005). Oxytocin increases trust in humans. Nature, 435(7042), 673-676.

Andari, E., Duhamel, J. R., Zalla, T., Herbrecht, E., Leboyer, M., & Sirigu, A. (2010). Promoting social behavior with oxytocin in high-functioning autism spectrum disorders. Proceedings of the National Academy of Sciences, 107(9), 4389-4394.
Eisenegger, C., Naef, M., Snozzi, R., Heinrichs, M., & Fehr, E. (2010). Prejudice and truth about the effect of testosterone on human bargaining behaviour. Nature, 463(7279), 356-359.
Oxley, D. R., Smith, K. B., Alford, J. R., Hibbing, M. V., Miller, J. L., Scalora, M., et al. (2008). Political attitudes vary with physiological traits. Science, 321(5896), 1667-1670.

Additional Reading Material:

Course/Module evaluation:
End of year written/oral examination 85 %
Presentation 0 %
Participation in Tutorials 0 %
Project work 0 %
Assignments 15 %
Reports 0 %
Research project 0 %
Quizzes 0 %
Other 0 %

Additional information:
Students are required to submit 3 short (about a paragraph or two) summaries of the reading material, summaries count for a total of 15% of the grade. A basic understanding of genetics is helpful, but not a formal requirement for the course.