



Exchange programme Vrije Universiteit Amsterdam

Vrije Universiteit Amsterdam - Exchange programme Vrije Universiteit Amsterdam - 2024-2025

Exchange

Vrije Universiteit Amsterdam offers many English-taught courses in a variety of subjects, ranging from arts & culture and social sciences, neurosciences and computer science, to economics and business administration.

The International Office is responsible for course approval and course registration for exchange students. For details about course registration, requirements, credits, semesters and so on, please [visit the exchange programmes webpages](#).

Brain in Trouble

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| Course Code | AB_1038 |
| Credits | 6 |
| Period | P2 |
| Course Level | 300 |
| Language Of Tuition | English |
| Faculty | Faculty of Science |
| Course Coordinator | dr. H.K.E. Vervaeke |
| Examiner | dr. H.K.E. Vervaeke |
| Teaching Staff | prof. dr. T.J. de Vries, prof. dr. T.J. de Vries, dr. H.K.E. Vervaeke |
| Teaching method(s) | Study Group, Computer lab, Lecture |

Course Objective

The goal of this course is to deepen understanding of the etiology, expression and treatment of (psychiatric) brain disorders, as well as models used in preclinical science. Students will be encouraged to critically analyze the impact of brain disorders on society.

Learning outcomes:

After completion of this course, the student is able to:

1. Explain the contribution of genetic and environmental factors to complex multifactorial diseases such as mental traits and mental disorders
2. Elaborate on the etiology of addiction, ADHD, obsessive-compulsive disorder, eating disorders, mood disorders and anti-social personality disorder
3. Elaborate on the various treatment options for psychiatric disorders
4. Explain gene-environment interactions and discuss some examples
5. Elaborate on the differential role of the environment in the etiology of traits / disorders according to the 'differential-susceptibility hypothesis'
6. Summarise, understand and apply the results of current neurobiological research into behavioural interventions to increase brain health and mental well-being
7. Critically reflect on the impact of mental disorders on society
8. Critically reflect on the boundaries between normal (healthy) and abnormal (ill) behaviour and the implications for society
9. Verbally defend a position on the various topics of this course (class discussions, ACADEMIC SKILL)

Course Content

The focus of this course is on the etiology of mental disorders, such as addiction, ADHD, obsessive-compulsive disorder, eating disorders, mood disorders and anti-social personality disorder, with special attention to the nature-nurture discussion. Various treatments options for these conditions will be discussed, including the use of pharmacological agents, behavioral therapy and deep brain stimulation. Students will be challenged to critically reflect on the boundaries between normality and abnormality and the implications for society.

First Theme: **addiction and impulsivity**

What is addiction? Is addiction truly a brain disorder? Do genes play a role in addiction? How does society view illicit drug use and addiction? Are all drugs equally harmful? How to treat addiction? Is ADHD a real mental disorder, or a cultural construct used to bring deviant or socially undesirable behavior under medical surveillance and control? Is it a good idea to treat children who have been diagnosed ADHD, with psychostimulant medications? What is the role of pharmaceutical companies? Do sugar and food additives elicit hyperactive behavior? Are there any advantages in having ADHD?

Second Theme: **obsessive compulsive disorders, eating disorders and cognitive enhancement**

Can you treat OCD with Deep Brain Stimulation? Is our Western beauty ideal at the root of eating disorders? Is the individual to blame for being obese? Is it ethical to improve your mental performance by cognitive enhancers?

Third Theme: **mood & social behaviours**

Is depression a real brain disorder or an inability of our culture to accept sadness as an integral part of life? Do genes play a role in the etiology of major depressive disorder and bipolar disorder? What is the efficacy of pharmacotherapy and behavioral therapy? What is the role of pharmaceutical companies?

Is there a neural basis to antisocial behavior? If biology and circumstance conspire to prime certain individuals toward violence, how much responsibility do people really bear for their actions? Are violent delinquents worth treating? Should brain imaging / genetic profiling be used in legal cases? Can neuroscience assist in determining responsibility? If neural circuitry underlying morality is compromised, is it morally wrong to punish prisoners? Are there positive aspects to psychiatric disorders?

Next, the healthy mind will be the focus. What is the current state of neurobiological research into behavioral interventions to increase brain health and mental well-being?

Additional Information Teaching Methods

Lectures (30 hours), computer practical (2 hours), class discussions (2 hours)
Course coordinators are Hylke Vervaeke and Taco de Vries

Method of Assessment

Written exam (combination of MC-questions and open-end questions) (75%) and class discussions (25%), each at least grade 5.5

Entry Requirements

This course is part of the minor Brain and Mind. University students need at least 90 ECTS to be eligible for (courses in) this minor.
HBO students can follow (courses in) this minor if they have at least 120 ETCS.

Literature

"Foundations Of Behavioral Neuroscience" by N.R. Carlson (Pearson Education (US)), 8th edition.

Extra literature on Canvas

Additional Information Target Audience

- Part of minor Brain and Mind
- Open to students from all educational backgrounds (e.g., exact, social, life and economic sciences) with an interest in the brain and mind.
- Due to curriculum overlap, students from Biomedical Sciences and Health and Life Sciences from the VU cannot follow this course.

Additional Information

Central Academic Skill: Debating and discussing

Custom Course Registration

Groups for Class Discussions via Canvas

Recommended background knowledge

The courses 'Cognitive Neuroscience' and 'Nature vs. Nurture' from the minor 'Brain & Mind'