Module Title and Code
PS3444 A Cognitive Neuroscience Approach to Addiction

Lecturer(s)
Professor Hugh Garavan

Contact Hours
One semester: 11 lectures; 114 hours independent study

ECTS Value
5 ECTS (=125 student hours)

Rationale and Aims
Drug addiction can exert powerful influences over human behaviour with inordinate amounts of time devoted to drug seeking and taking and often at great expense to the addicted individual's personal, family and economic life. This course will focus on what is known about the cognitive and emotional processes involved in addiction with an emphasis on its neurobiology. We will address the risk factors for addiction (eg personality factors; environmental stressors and how these produce measureable neurobiological changes) and the risk factors for relapse with an additional focus on treatment.

For whom is the module intended?
Psychology Sophister SH/TSM students and Higher Diploma in Psychology Year 2 students

How does it fit in to the academic programme?
This module provides advanced coverage of material in some of the essential aspects of the discipline of psychology, and is required to be covered by the professional accreditation body, Psychological Society of Ireland.

Is it mandatory or optional?
Optional

Are there prerequisites?
Cognate foundation module.

From a teaching point of view, what are the intentions of the lecturer?
To provide students with an appreciation that deep insights into the nature of addiction can be obtained from a cognitive neuroscience approach to it study. Students should become knowledgable of the dominant theories on addiction and the methodologies uses. They should be able to apply a scientific perspective to popular and topical questions such as whether there exists an “addictive personality” or whether or not cannabis is a stepping stone drug to harder drugs.

Course Content
- What is addiction; DSM criteria; addictive personalities; “atypical” addictions (chocolate, sex, gambling); Drug use in Ireland; Addiction as reward and control.
- The neurobiology of reward and how it is affected by substance dependence. The dopamine hypothesis.
- The neurobiology of cognitive control and how it is affected by substance dependence.
- Research methodologies for studying addiction. Theories of addiction.
• Focus on specific drugs of abuse: Cannabis and ecstasy.
• Focus on specific drugs of abuse: Cocaine and heroin.
• Focus on specific drugs of abuse: Alcohol and nicotine.
• How do we treat addiction; addiction co-morbidities.
• Remaining research questions and theoretical issues. Neurocognitive changes as cause or consequence of drug use? Amelioration with abstinence? Is cannabis a stepping-stone drug? Does cannabis use lead to schizophrenia?

Indicative Resources
Required text(s)
As this is an advanced sophister research-led taught module, state-of-the-art and up-to-date journal articles from the relevant research literature will be made available throughout the module. There is no required text book but the following are recommended:


Learning Outcomes
On successful completion of this course, students will be able to:
• A grounding in the neurobiology of reward and cognitive control mechanisms; [PO 1,2]
• An understanding of how these processes might be affected by substance dependence; [PO 1,2]
• Knowledge about the psychological and neurobiological effects of specific drugs of abuse; [PO 1,2]
• Knowledge on theories of drug abuse and research methodologies used in studying drug abuse; [PO 1,2,4,5]
• An appreciation of some of the outstanding empirical questions and theoretical issues in addiction. [PO 7,8]

Methods of Teaching and Student Learning
The format of lectures is conventional but students are encouraged to ask questions and to engage the lecturer in discussion where practicable. Both the reduced numbers in these optional modules and the fact that the module is based in the lecturer’s own area of research expertise and interest facilitates increased class discussion and debate.

Inclusive curriculum: Each lecture and any supporting and accompanying documentation is posted on our school website to facilitate independent study and self-paced learning.

Methods of Assessment
This module is assessed by continuous assessment of one essay (2,500 words, 32%) and one written examination (68%) in the annual session. The exam is 2 hours
30 minutes in duration and students are required to answer two of six questions discursively.

It is expected that:
(i) a range of areas should be covered in addressing each question. A poor mark will be awarded to essays/answers that do not integrate a majority of the relevant topics covered in the lectures; and
(ii) responses should be critical, original and synthetic and should be based on reading beyond the lecture notes.

Students are given very detailed guidelines in their handbook as to grading criteria for degree classes.

**Evaluation**
All modules are evaluated by students by means of CAPSL survey requested by the School and all feedback is noted and incorporated in module design where appropriate for delivery of the module in subsequent years. Feedback is also delivered via student representatives at the School’s once a term staff-student meetings, at School Committee meetings and at the Committee for Undergraduate Teaching & Learning meetings.