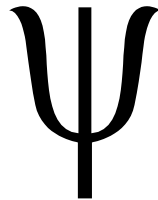




Disgyblaeth Academaidd: Seicoleg
Academic Discipline: Psychology



BSc (Anrh) Seicoleg
BSc (Hons) Psychology

Module M5X00908
Brain, Behaviour, and Cognition

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Module Handbook

2018-2019

Module M5X00908
Brain, Behaviour, and Cognition

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This handbook has been designed to provide you with the necessary information required for your progression throughout the module. It is very important that you refer to this handbook and the associated Moodle site regularly as it is your essential guide to module content and the learning outcomes required to complete the module.

Good luck with your studies. If you have any queries regarding this module, please contact the module leader.

Regards,

Dr. Kate Elizabeth Williams

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Introduction to the module

The module is divided into two elements: (1) Biological and (2) Cognitive. The Biological element explores the functioning of the brain, with particular focus on the anatomy of the nervous system, neural conduction, and synapses. We will also focus on the visual system, learning, memory functions, and Bio-psychological explanations of drug addiction and psychiatric disorders. The Cognitive element explores key functions such as memory and perception alongside cognitive applications such as attention, categorisation, decision-making and language. The module is based on empirical studies of human, and in some cases animal, behaviour and the emerging models of cognitive structures and processes.

There are two core textbooks, which will provide a sound overview of the issues covered in this module. Each lecture comes with essential readings. However, at Level 5 you should now be supplementing this reading with extensive reading of more specialist texts and relevant journal articles in order to gain a more in-depth understanding of the topic. Additionally, the use of alternative textbooks covering a similar depth and breadth as the core texts will not be detrimental to your ability to engage with the module.

CORE TEXTS:

- Biological = Pinel, J. P. J. (2014). *Biopsychology* (8th ed.) Boston: Pearson (Also, available as an E-book through the library system).
- Cognitive = Eysenck, M. W., & Keane, M. T. (2015). *Cognitive psychology: A student's handbook* (7th ed.). Hove: Psychology Press (Also, available as an E-book through the library system).

MODULE CODE:	M5X00908
TITLE:	Brain, Behaviour and Cognition
MODULE LEADER:	Dr. Kate Williams
LEVEL:	5
SEMESTER:	2
CREDITS:	20

AIM(S)

The aim of this module is to:

- develop an understanding of the biological bases of behaviour and neuropsychological approaches;
- enable students to critically evaluate core theories of human cognition including learning, memory, language development and thinking;
- enhance students' understanding of the link between emotion, cognition and behaviour.

LEARNING OUTCOMES

Upon the successful completion of this module, the student should be able to demonstrate the ability to:

1. Describe and evaluate key theories of various aspects of human cognition;
2. critically discuss the role of the brain and the biological bases of behaviour;
3. develop a critical understanding of the methods used to explore the link between the brain and cognition.
4. the ability to present work suitable for an academic audience through appropriate media.

INDICATIVE CONTENT

This module will bring together two of the core BPS curriculum topics to deliver a coherent integration of coverage that allows students to develop an understanding of the bio-psychological systems and their role in cognitive processes. Specific content coverage mapping onto BPS Core Curriculum for cognitive psychology will include:

- Attention
- Perception
- Learning and Memory
- Language and Thought
- Consciousness
- Cognitive Neuropsychology

Specific content coverage mapping onto BPS Core Curriculum for biological psychology will include:

- Evolution of the brain
- Structures and functions of the nervous system
- The influence of drugs
- Neuropsychology and somatosensory perception
- Techniques for studying the brain e.g. neuroimaging
- Biological damage and cognitive deficits

By combining these topics students will develop an understanding of how the physical structures and functions of the brain influence cognitive processes such as attention, memory, language, perception and emotion, and the methods used to explore these processes.

LEARNING AND TEACHING STRATEGY

The module will be delivered through formal lectures and seminars. Seminars will focus on further developing students' understanding of the biological and cognitive mechanisms of behaviour through a variety of tasks including practical demonstrations, small class exercises, multimedia packages and group discussions.

Allocation of teaching to deliver the module are:

Activity type	Hours	Percentage
Scheduled learning • Lectures = 20 hours • Seminars = 20 hours	40	20%
Independent learning	160	80%
Placement learning	-	-
TOTAL	200	100%

ASSESSMENT

Learning Outcomes	Assessment Criteria <i>To achieve each outcome a student must demonstrate the ability to:</i>
1. Describe and evaluate key theories of various aspects of human cognition	Evaluate and compare models of human cognition, discussing their relative strengths and weaknesses
2. Critically discuss the role of the brain and the biological bases of behaviour	Critically discuss using empirical evidence how specific biological systems and key structures and functions of the brain influence human behaviour
3. Develop a critical understanding of the methods used to explore the link between the brain and cognition	Evaluate the strengths and limitations of methods used to understand the link between the brain and cognition
4. The ability to present work suitable for an academic audience through appropriate media	Present work to required conventions using appropriate media

Assessment Component 1 – 25%

Written Assignment (assessing learning outcome 3 & 4) – a 1250 word written assignment will assess students' critical understanding of the methods used to explore the link between the brain, behaviour and cognition.

Assessment Component 2 – 25%

One hour examination assessing cognition

Assessment Component 3 – 50%

Two hour exam assessing biological bases of behaviour

Assessment Summary

Activity type	Percentage
Written Exam	75%
Coursework	25%
Practical	-
TOTAL	100%

READING LIST (EXEMPLI GRATIA)

Essential Reading:

Eysenck, M. W., & Keane, M. T. (2015). *Cognitive psychology: A student's handbook* (7th ed.). Hove: Psychology Press.

Pinel, J. P. J. (2014). *Biopsychology* (8th ed.) Boston: Pearson. (E-book also available.)

Background Reading:

Braisby, N., & Gellatly, A. (Eds.). (2012). *Cognitive psychology*. (2nd.ed.). Oxford: Oxford University Press.

Dubin, M. W. (2001). *How the brain works*. Oxford: Blackwell.

Eysenck, M. W. (2001). *Principles of cognitive psychology* (2nd Ed.). Hove: Psychology Press.

Gross, R. D. (2010). *Psychology: The science of mind and behaviour* (6th ed) London: Hodder Education. (E-book also available.)

Harley, T. (2013). *The psychology of language: From data to theory* (4th ed.). Hove: Psychology Press.

Mather, G. (2006). *Foundations of perception*. Hove: Psychology Press.

Smith, E. E., & Kosslyn, S. M. (2007). *Cognitive psychology: Mind and brain*. Upper Saddle River, N.J.: Pearson/Prentice Hall.

Example Relevant Journals:

Biological Psychology

Cognition

Journal of Experimental Psychology: Animal Behavior Processes

Journal of Experimental psychology: Human Learning and Memory

Journal of Experimental Psychology: Human Perception and Performance

Journal of Experimental Psychology: Learning, Memory and Cognition

Journal of Memory and Language

Learning and Motivation

Quarterly Journal of Experimental Psychology

Module Assessment

The Brain, Behaviour, and Cognition module is assessed through three components (two relating to the Cognitive element: each worth 25% of the overall module mark and one relating to the Biological element: worth 50% of the overall module mark). The first assessment is a written word essay to be submitted during Semester Two. The second and third assessments will be examinations at the end of Semester Two. The Cognitive exam will consist of four essay-style exam questions, from which you will choose to answer one. The Biological exam will consist of eighteen questions divided into three sections – answer two questions from six in each of the three sections. This format will enable you to display your ability to research specific topics, engage with the course materials, and synthesise information and show your knowledge of the theoretical issues covered in the module.

Whilst it is recognised that you may fall behind at points with your reading, and it is not expected that you will necessarily understand or absorb everything that is covered in lectures and essential readings at the time of coverage, there is an expectation that you will have covered all necessary information by the examination.

In the Module Series Information section of this handbook you will see that you have been allocated a minimum of 30 hours to the written essay assessment. This should provide you with ample time to complete your assessment but also emphasises the need to plan ahead and ensure that you spend the required time on your assessed work; you only get one opportunity at each assessment to maximise your marks, there are no second tries (unless you fail completely!) so give each piece of work the due care and attention that it deserves. We set high standards, we have high expectations – follow the guidance provided and put the effort in that is required and you can do well.

As this is a Level 5 module, it is expected that you will now start to use empirical evidence to evaluate theories. You should be looking to evaluate the strengths and weaknesses of theories, by using contrasting evidence and arguments. Although you will still be reliant on secondary sources (textbooks), you should now also be using primary sources (journal articles) to provide depth to your arguments. Citing, referencing, writing style and overall presentation are expected to be at exceptionally high standards at Level 5. Proofread carefully, as errors here will result in penalties.

Please see the Assessment Proforma on the Brain, Behaviour, and Cognition Moodle page for specific information regarding assessment questions, requirements, and submission deadlines. For this module you must complete all pieces of work for assessment, but to pass the module you require a combined mark of 40% or higher.

Level 5 Assessment Criteria

At **Level 5** it is expected that the student will demonstrate the following qualities:

1. More highly developed ability to complete a variety of written tasks effectively, including discursive essay, reports, and case study presentations.
2. Be able to participate orally in a variety of different groups and settings in a confident and articulate fashion.
3. Be able to use language with increasing complexity and sophistication.
4. Be practised in hypothesis formation and knowledgeable about the means for testing hypotheses.
5. Have the capacity to develop a major research interest evolving from the course and to prepare for an involvement with it.
6. Be able to apply a range of theoretical models.
7. Be able to synthesise theories, concepts and information in relatively novel ways.
8. To have become more practised in critically appraising the competing claims of alternative primary and secondary sources.
9. A growing ability to manage learning in a self-organised manner with a particular view to the importance of achieving desired outcomes within limited time periods.

At Level Five engagement with suggested literature and course materials, time management, and the development of a strategy for engaging with the topic area form key elements of assessment. Whilst the topics covered in the module may be complex there are clearly-defined expectations regarding assessment that give scope to a Level Five student. For example, you may be asked to 'discuss' or 'evaluate' competing theories on a given topic, this allows you to provide an argument drawing upon evidence, and there is an expectation that you are able to interpret and critique the evidence.

Taught and Independent Study

Taught Sessions

The taught lectures and seminars are delivered separately in this module and the structure may vary from week to week, depending upon the topics we are covering, to allow us to explore them in different ways. The following pages set out the lecture and seminar structure for this module. Lectures will cover some of the major theories and areas of research relevant to Brain, Behaviour, and Cognition. Seminars will focus upon specific areas of the sub-topics covered in lectures and are an essential part of your learning. The seminars will allow you to display your knowledge of the topics, to discuss the issues raised in the readings and lectures, and to enable you to practically experience some of the aspects of Biopsychology and cognition. This handbook clearly sets out the requirements for your individual learning and it is expected that students will engage in the readings set out in this handbook.

Please note: Lectures will start promptly on the hour and finish at ten to the hour. We will take a short break roughly half way through the lecture (this has to be flexible to fit with content delivery) and a time for the restart will be decided upon at that time. Late entry will only be permitted at points where the academic staff feel it is appropriate, as it is unfair on students who have arrived on time when their lecture is disrupted by late-attending students. Please note that no materials will be repeated for those arriving late.

Lectures (Weekly):

Biological: Wednesday, 9am -11am (2 hours)

Cognitive: Thursday, 10am -11am (1 hour)

Seminars (Weekly):

Cognitive Seminar: Thursday, Group 1: 11am-12pm & Group 2: 12-1pm

Biological Seminar: Thursday, 1-2pm

This handbook and the associated Moodle folder should be used to keep track of what we are covering and what the requirements are for seminar preparation.

Readings

Readings/preparation for this module will largely follow the chapters of your core textbooks and, as such, should be easy to identify. The core texts are available through the university library system. Therefore, everyone on the course has equal access to these readings.

Expected lecture reading and preparation are set out in advance in the following pages. Readings beyond the core text for this module can be found through the University library system. Where a reading is not widely available (e.g., a book chapter) it will be made available on the module Moodle site. However, journal articles freely available through the University system will not be made available on Moodle – you will have to find them yourself!

Lectures can only provide you with a scaffold of information – it is your wider reading that will help you to develop a comprehensive understanding of the topics and discussions covered in this module. All readings for this module classed as ‘essential’ may be used as a source of assessment. It is suggested that you carry out the essential readings as we go along as this will enhance your understanding of the overall topic. It is often best to read the associated reading in the week prior to the taught session and then again afterwards, as this will enable you to have an understanding of what will be covered in the session and then to consolidate that knowledge and clarify your learning afterwards. This module has been structured in such a way that the readings and lectures are highly integrated; someone who has prepared by carrying out the reading, attending the lecture and then reviewed the material should develop a good understanding of the material. A student who attends the lecture but does not carry out any of the readings will, in all likelihood, struggle to even understand what is being discussed in the lecture; they certainly will not develop the knowledge that will be required at more advanced levels of their degree.

Additional reading suggestions will be posted on Moodle from time to time, which will provide further depth to your knowledge, and you are encouraged to engage with as many of these readings as possible.

In addition, where indicated on Moodle, you have been set readings for the seminars which will allow us to explore the topics in more depth. All seminar readings are classed as ‘Essential’ readings in addition to the lecture readings and attendance at seminars without having prepared appropriately should not occur and is considered unacceptable.

Preparation reading chapters refer to the core texts:

- Biological = Pinel, J. P. J. (2014). *Biopsychology* (8th ed.) Boston: Pearson. (E-book also available.)
- Cognitive = Eysenck, M. W., & Keane, M. T. (2015). *Cognitive psychology: A student's handbook* (7th ed.). Hove: Psychology Press.

Semester Two: Reading Preparation		
Week and Date	Biological Lecture	Cognitive Lecture
Week 11: w/c 28 th Jan	Chapters 3 and 9 6 hours	Chapter 1 2 hours
Week 12: w/c 4 th Feb	Chapter 4 3 hours	Part III 7 hours
Week 13: w/c 11 th Feb	Chapter 6 3 hours	Chapters 2, 3, & 4 6 hours
Week 14: w/c 18 th Feb	Chapters 7 & 8 7 hours	Chapter 5 2 hours
Week 15: w/c 4 th Mar	Chapter 11 3 hours	Chapter 6 2 hours
Week 16: w/c 11 th Mar	Chapter 5 3 hours	Chapter 7 2 hours
Week 17: w/c 18 th Mar	Chapter 10 3 hours	Chapter 8 2 hours
Week 18: w/c 25 th Mar	Chapter 15 3 hours	Chapters 3, 6, 7, & 10 4 hours
Week 19: w/c 1 st April	Chapter 18 3 hours	Part IV 7 hours
Total topic Reading	34 hours	34 hours
Total Module Reading = 68 hours		
Total Year Contact = 43 hours: Lectures = 27 hours + Seminars = 16 hours		

*** Please see Weekly Planner for dates/times of Seminars ***

***Seminar Readings will be posted on Moodle ***

Assessment

1 x written word Method essay (1250 words) = 25%

1 x **one-hour** Cognitive Examination = 25%

1 x **two-hour** Biological Examination = 50%

<i>Suggested plan for written word method essay</i>		
Task	What it entails	Time assigned for task
Research what a method essay entails.	Find, read, and understanding what a method essay entails. Researching information for the particular essay topic area.	Method essay = 2 hours
Research essay topic	Research information for the particular essay topic area through books and journal articles.	Basic books/journal articles = 6 hours Advanced books/journal articles = 6 hours
Writing first draft	This should be done in Word, start writing your basic arguments	8 hours
Writing second draft	Checking for coherence of argument and structure of arguments flow throughout the essay	4 hours
Writing final draft	Writing the version that is to be submitted, complete with citations and full reference list	2 hours
Proofread and check	Proofread for structure and errors, check for presentation + submit to draft Turnitin portal to check for plagiarism.	2 hours
<i>Time allocated to assessment = 30 hours</i>		

<i>Suggested plan for Exam Preparation</i>	
Task and What it entails	Time assigned for task
Revision:- • Review the module content and lecture slides on Moodle. • Identify major topics and themes. • Read and re-read your notes. • Find and read information in relation to the module topics (through books & journal articles). • Take notes while you revise. • Practice doing mock exam questions	There are 62 hours remaining from your allotted independent study time for the module in order to devote to revising for the exams. You may feel you need to spend a far greater amount of time than this on revision, especially as there are two exams. So, it is up to you to ensure you have spent the time needed to prepare for the exams.

Please be aware that these are suggested allocated times and should be used as a guide only. Essentially these are the minimum number of hours you should be spending on each task. You may personally find that you are quicker or slower at certain tasks compared to other tasks. Likewise, you should not stop doing something if the number of suggested allocated hours has come to an end, especially if you still have work or further reading to do.

Module content and delivery schedule follows below.

Semester 2

Week 11

Biological Lecture: Anatomy of the nervous system

We will look at the structure of the nervous system, examining the peripheral and central nervous system. We will also look at its development and neuroplasticity in adults. Therefore, as well as the primary chapter reading, you should also consult specific pages on the development of the nervous system. Key areas will include:

- General layout of the nervous system
- Autonomic nervous system
- Structures in the brain
- Anatomy of Neurons

Essential Reading:

Pinel, J. P. J. (2014). *Biopsychology*: **Chapter 3** and Chapter 9.

Cognitive Lecture: Introduction to Cognitive Psychology

This lecture will begin by considering some of the foundations in the study of cognition, and how these relate to modern paradigms in research. Central issues considered will include:

- What is Cognitive Psychology
- History of Cognitive Psychology
- Information processing
- Approaches to understanding and methods to test cognition
- Representations

Essential Reading:

Eysenck, M. W., & Keane, M. T. (2015). *Cognitive psychology*: Chapter 1

No Seminars this week

Week 12

Biological Lecture: Neural conduction and synaptic transmission

The lecture will focus on how the nervous system communicates through neural and synaptic transmission. We will focus on the mechanisms required, and will also explore disorders of neurodevelopment such as autism and Williams syndrome. Key areas will include:

- Resting membrane potential
- Postsynaptic potentials
- Conduction of action potentials
- Neurotransmitters
- Synaptic transmission
- Disorders of neurodevelopment

Essential Reading:

Pinel, J. P. J. (2014). *Biopsychology*: **Chapter 4**.

Cognitive Lecture: Language

The ability to communicate through a human linguistic system will be examined this week. This includes specific aspects theorised to compose human language, as well as the study of animal communication or language. Central issues:

- Reading and speech
- Studies of animal communication
- Complex and simple animal communication
- Theoretical elements of human language
- Comparison between animal and human elements
- Semanticity, displacement, structure and creativity
- The power of recursion in human language

Essential Reading:

Eysenck, M. W., & Keane, M. T. (2015). *Cognitive psychology*: Part III.

Cognitive Seminar: Assessment 1 Information and Guidance.

Biological Seminar: Neurons and the Nervous System.

Week 13

Biological Lecture: The Visual system

The lecture will focus primarily upon how we see and how our brain interprets signals sent from our eyes, in addition to how we perceive information from the environment. We will also briefly examine disorders of the visual system.

Essential Reading:

Pinel, J. P. J. (2014). *Biopsychology*: **Chapter 6**.

Cognitive Lecture: Perception

How do we perceive and make sense of the world around us? This week will explore some of the theories for how we take information from the world and make useful and meaningful perceptions from that information. Central issues include:

- Sensory information intake
- conceptual processing (top-down)
- data-driven processing (bottom-up)
- cues from stimuli used for perception
- computational approach

Essential Reading:

Eysenck, M. W., & Keane, M. T. (2015). *Cognitive psychology*: **Chapters 2, 3, & 4**.

Cognitive Seminar: Top-down vs. Bottom-up processing

During this seminar, we will have a critical discussion and compare the Top-down and Bottom-up processing accounts of visual perception.

Biological Seminar: Disorders of vision: Prosopagnosia

During this seminar, we will continue discussing a particular type of visual disorder, known as prosopagnosia. We will discuss the visual deficits experienced by someone with this disorder and the impact on their lives.

Week 14

Biological Lecture: Mechanisms of perception - Hearing, touch, smell, taste, and attention

The lecture will build upon the previous lecture on the visual system to examine the auditory system, and the interaction between the two. We will then focus upon somatosensory perception, and in particular how the body deals with pain. Whilst the essential reading is the Pinel text additional readings on pain will be made available on Moodle.

Essential Reading:

Pinel, J. P. J. (2014). *Biopsychology*: **Chapters 7 and 8**.

Cognitive Lecture: Attention

This lecture will examine theories of attention and the empirical evidence that provides support for theories of attention. Central issues will include:

- What is attention
- Theories of attention – Broadbent, Treisman, Deutsch & Deutsch
- Visual search
- Spotlight, zoom lens
- Stroop

Essential Reading:

Eysenck, M. W., & Keane, M. T. (2015). *Cognitive psychology*: **Chapter 5**

Cognitive Seminar: Feature-Integration theory

During the seminar, we will discuss the components of the Feature-integration theory of visual attention and further explore how features of an object are combined in visual processing.

Biological Seminar: Mechanisms of hearing.

In this seminar, we will further explore the mechanism of how a sound wave arriving at the auditory canal reaches the auditory processing system within the brain.

Week 15

Biological Lecture: Learning, memory, and amnesia

This lecture will focus upon memory location and synaptic mechanisms of learning. We will then examine the effects of amnesic disorders and the research into dissociations of memory stores.

Essential Reading:

Pinel, J. P. J. (2014). *Biopsychology*: **Chapter 11**.

Cognitive Lecture: Short-term memory

To begin to examine memory function, this week we will discuss short term or temporary memory function. This can be viewed as the aspect of memory that enables useful memory functioning in many tasks to emerge, and has also been implicated in definitions of consciousness. Central issues include:

- The location of the short-term store in memory
- The multi-store (modal) model of memory function
- Rehearsal as a key process
- Working memory
- Decomposition of the working memory store via testing
- Visual and verbal dissociation in working memory function and structures

Essential Reading:

Eysenck, M. W., & Keane, M. T. (2015). *Cognitive psychology*: **Chapter 6**.

Cognitive Seminar: Can we still rely on the Working memory model?

As is suggested by the title, this seminar will focus on exploring the Working memory model of short-term memory and discuss the factors that can contribute to forgetting.

Biological Seminar: The role of the hippocampus in memory.

Again, as is suggested by the title, during this seminar we will discuss the role of the hippocampus in memory, specifically in relation to the lesion paradox, spatial location and object recognition.

Week 16

Biological Lecture: The research methods of biopsychology

The lecture will focus on examining the research methods that are utilised in contemporary biological psychology research. These include, methods for visualising the brain, recording psychophysiological activity, invasive methods, pharmacological research, neuropsychological testing, and animal paradigms.

Essential Reading:

Pinel, J. P. J. (2014). *Biopsychology*: **Chapter 5**.

Cognitive Lecture: Long-term memory

The more permanent storage of information and knowledge is necessary for much of what we describe as human life and abilities. To facilitate this we require a system of memory that can represent, store and retrieve information at an accurate level.

Research and theory suggests that we use different memory systems within the whole that we call long-term memory. Central issues include:

- Processes of encoding, storage, representation, and retrieval
- Episodic, semantic and procedural memory systems
- Depth of processing effects
- Recall and recognition in comparison
- Structure vs. process in memory

Essential Reading:

Eysenck, M. W., & Keane, M. T. (2015). *Cognitive psychology*: **Chapter 7**.

Cognitive Seminar: Processing vs. System based accounts of LTM.

During this seminar, we will focus on Henke's Processing-based model of long-term memory and discuss how it differs to the traditional System-based accounts.

Biological Seminar: Techniques for studying the brain.

We will discuss methods used to explore the brain, with particular focus on CT, fMRI, PET, EEG, neuroanatomical techniques to view neurons, and stereotaxic surgery.

Week 17

Biological Lecture: Brain damage and neuroplasticity

The lecture will examine how different types of damage can affect the nervous system. We will examine cell death, neuropsychological diseases, & neuroplasticity.

Essential Reading:

Pinel, J. P. J. (2014). *Biopsychology*: **Chapter 10**.

Cognitive Lecture: Memory: Context, Errors, and influences on function

Though we may hope that our memories function in a perfectly accurate way, and reproduce information exactly as it was first experienced, evidence suggests this is often not the case. This week will explore some important effects upon how accurately our memories perform. Central issues:

- Forgetting in long-term memory
- Cue-dependent and trace dependent
- Context effects upon memory
- State-dependent and general context effects
- Memory biases and schema-dependency
- Misleading information effects
- Reconstruction and construction in memory
- Autobiographical memory implications

Essential Reading:

Eysenck, M. W., & Keane, M. T. (2015). *Cognitive psychology*: **Chapter 8**.

Cognitive Seminar: When memory fails

In this seminar, we will discuss the range of factors that can contribute to forgetting.

Biological Seminar: Animal models of human neuropsychological disease.

As is suggested by the title, this seminar will focus on animal models of neuropsychological disease.

Week 18

Biological Lecture: Drug addiction and the Brain's reward

In this lecture we will examine the effects of drugs upon the nervous system, and in particular how these compounds may affect the brain's reward centres. We will explore the psychological, physiological and contextual aspects of drug addiction and potential treatment efficacies.

Essential Reading:

Pinel, J. P. J. (2014). *Biopsychology*: **Chapter 15**.

Cognitive Lecture: Concepts, categorisation, and schema

This week will examine the ability of our cognitive systems to categorise and conceptualise information. A key feature of this process is organisation of information, and how new examples we encounter are processed into existing cognitive structures. Central issues:

- Categorisation and organisation
- Implied stored categories in memory
- Accessing the information via cues
- Process of category creation and adaption
- Exemplar and Prototype theories

Essential Reading:

Eysenck, M. W., & Keane, M. T. (2015). *Cognitive psychology*: **Chapters 3, 6, 7, 10**

Cognitive Seminar: Prototype and Exemplar theories of Categorisation.

In this seminar, we will critically discuss the prototype and exemplar theories of object categorisation through an exploration of their strengths and weaknesses.

Biological Seminar: The role of dopamine in drug addiction.

The neurotransmitter dopamine plays a key role in many aspects of biological psychology; during this seminar, we will specifically discuss what the research into intracranial self-stimulation tells us about the role of dopamine in drug addiction.

Week 19

Biological Lecture: Biopsychology of psychiatric disorders

In this final biological lecture we will examine the bio-psychological basis for common clinical psychiatric disorders. We will focus upon schizophrenia, affective and anxiety disorders, and the efficacy of pharmacological and psychological treatments.

Essential Reading:

Pinel, J. P. J. (2014). *Biopsychology*: **Chapter 18**.

Cognitive Lecture: Decision making

The ways in which we apply our cognitive ability to making decisions and judgements will be explored this week. Theories for how decisions and judgements are reached accurately or inaccurately will be explored, incorporating the biases that both internal mechanisms and external factors may have on decisions and judgements reached. Central issues:

- Uncertainty and knowledge
- Optimal vs. subjective processes
- Gains and losses
- Risk in decisions
- Biases in reasoning process
- Heuristics in reasoning

Essential Reading:

Eysenck, M. W., & Keane, M. T. (2015). *Cognitive psychology*: Part IV

Cognitive Seminar: Biases and heuristics in judgement and decision making.

During this seminar, we will examine how biases and heuristics influence our judgement and decision making abilities.

Biological Seminar: Schizophrenia

Following on from last week's seminar, we will continue to discuss the role of dopamine, but this week in relation to the dopamine theory of schizophrenia.

Week 20

This week will summarise specific areas we have focussed on throughout the module series, and discuss what may be considered as key problems and approaches to those problems in both biological and cognitive psychology.

Biological Lecture: Discussion of Biological Exam

During this lecture, we will run through the specific guidance for this exam and run through the specific areas to focus your revision in preparation for the exam.

Cognitive Lecture: Discussion of Cognitive Exam

During this lecture, we will run through the specific guidance for this exam and run through the specific areas to focus your revision in preparation for the exam.

Seminar: General Exam Preparation

We will end with some information to prepare you for the exams in general terms and you will have the opportunity to ask any questions about the module or discuss any elements that you are unsure about.

******End of Module Series******