

<b>Course Code</b>	HP4261
<b>Course Title</b>	Seminar in Perceptual and Cognitive Neurosciences
<b>Pre-requisites</b>	HP1000 Introduction to Psychology HP2600 Cognitive Psychology
<b>No of AUs</b>	4
<b>Contact Hours</b>	52

### Course Aims

This course provides students with an advanced introduction to empirical findings, methods, and theoretical perspectives, in the field of perceptual and cognitive neurosciences. The course focuses heavily on discussion of the major findings and the theoretical positions that drive current research in topics including perception, attention, memory, and others. Research findings will be discussed in the context of both modern theories and the theoretical positions from which they originate.

### Intended Learning Outcomes (ILO)

By the end of this course, you should be able to:

1. Appreciate and critically assess research findings of both modern theories and the theoretical positions from which they originate for a range of cognitive psychology topics, including theories about the mind/brain, perception, memory, language, emotion, learning and consciousness.
2. Lead the discussion by presenting the major ideas of the research articles in cognitive psychology.
3. Select a particular topic of cognitive psychology to introduce to fellow students for critical discussion.

### Course Content

In this seminal course, students will consolidate and deepen on their knowledge of perception and cognition from previous courses. They will critically analyze contemporary theories and methods in topics including the basic foundation of systems neuroscience (e.g., modularity of mind, the binding problem, computational approach of mind), visual perception, consciousness, memory, language, emotion, learning, etc. These will be performed in the context of seminal readings, class debates and presentations, and critical writing.

### Assessment (includes both continuous and summative assessment)

Component	ILO Tested	Related Programme LO or Graduate Attributes	Weighting	Team/ Individual
1. CA1:	1, 2, 3	Cognitive Agility &	20%	Team

Presentation #1		Competence	Team: 15% Individual: 5%	
2. CA2: Presentation #2	1, 2, 3	Cognitive Agility & Competence	20%  Team: 15% Individual: 5%	Team
3. CA3: Critical review	1, 2, 3	Cognitive Agility & Competence	40%	Individual
4. CA4: Class participation	1, 2	Competence	20%	Individual
Total			100%	

CA1: Oral presentation (#1) of assigned seminal paper readings  
CA2: Oral presentation (#2) of student-chosen seminal papers  
CA3: Critical review of a selected topic  
CA4: Class participation

**Formative feedback**

CA1: Students will be provided feedback and critique by the instructor and fellow students on the clarity and flow of their presentations of papers.

CA2: Students will be provided feedback and critique by the instructor and fellow students on the clarity and flow of their presentations and choice of papers.

CA3: Students will receive their specific feedback on their writings by the instructor.

CA4: The rest of class will act as participants in discussion during a student’s presentation. These participants’ comments will be reviewed and critiqued by the instructor and fellow students and presenter.

**Learning and Teaching approach**

Approach	How does this approach support you in achieving the learning outcomes?
Proactive learning	The course focuses on inculcating a culture of proactive individual and collaborative learning. The roles of the instructors are to facilitate discussion and to guide you to acquire fundamental concepts and theories. You are expected to adopt, adapt and synthesize the acquired concepts and theories into practice by formulating your opinion in the contemporary theories of perceptual and cognitive neurosciences.

**Reading and References**

J.A. Fodor (1983). The Modularity of Mind: AN Essay on Faculty Psychology.  
Cichy RM & Kaiser (2019). Deep Neural Networks as Scientific Models. Trends in Cognitive

Sciences.

Bruce V & Young, A (1986). Understanding face recognition. *British Journal of Psychology*.

Koch, Massimini, Bloy, & Tononi (2016). Neural correlates of consciousness: progress and problems. *Nature Reviews Neuroscience*.

Schurgin (2018). Visual memory, the long and the short of it: A review of visual working memory and long-term memory. *Attention, Perception & Psychophysics*.

Zlatev, J., Blomberg, J. (2015). Language may indeed influence thought. *Frontiers in Psychology*.

Storbeck J, Clore GL. (2007). On the interdependence of cognition and emotion. *Cognition and Emotion*.

McLaughlin, B (1990). Conscious versus unconscious learning. *TESOL Quarterly*.

### **Course Policies and Student Responsibilities**

#### (1) General

You are expected to complete all assigned pre-class readings and activities, attend all seminar classes punctually and take all scheduled assignments by due dates. You are expected to take responsibility to follow up with course notes, assignments and course related announcements for seminar sessions they have missed. You are expected to participate in all seminar discussions and activities.

#### (2) Absenteeism

Absence from class without a valid reason will affect your overall course grade. Valid reasons include falling sick supported by a medical certificate and participation in NTU's approved activities supported by an excuse letter from the relevant bodies.

If you miss a class, you must inform the course instructor via email prior to the start of the class.

### **Academic Integrity**

Good academic work depends on honesty and ethical behaviour. The quality of your work as a student relies on adhering to the principles of academic integrity and to the NTU Honour Code, a set of values shared by the whole university community. Truth, Trust and Justice are at the core of NTU's shared values.

As a student, it is important that you recognize your responsibilities in understanding and applying the principles of academic integrity in all the work you do at NTU. Not knowing what is involved in maintaining academic integrity does not excuse academic dishonesty. You need to actively equip yourself with strategies to avoid all forms of academic dishonesty, including plagiarism, academic fraud, collusion and cheating. If you are uncertain of the definitions of any of these terms, you should go to the [academic integrity website](#) for more information. Consult your instructor(s) if you need any clarification about the requirements of academic integrity in the course.

### **Planned Weekly Schedule**

<b>Week</b>	<b>Topic</b>	<b>ILO</b>	<b>Readings/ Activities</b>
Week 1	Introduction to research topics in perceptual and cognitive neurosciences	1,2	Nil
Week 2	Modularity of mind & the binding problem	1,2	Fodor 1983
Week 3	Mind as computer?	1,2	Cichy & Kaiser 2019
Week 4	Visual perception	1,2	Bruce & Young 1986
Week 5	Consciousness	1,2	Koch et al 2016
Week 6	Memories and habits	1,2	Schurgin 2018
Week 7	Language and consciousness	1,2	Zlatev, Blomberg, J. 2015
Week 8	Emotion and cognition	1,2	Storbeck, Clore 2007
Week 9	Learning and conditioning	1,2	McLaughlin, 1990
Week 10	Student initiated topics I	1,2,3	Jointly determined by instructor and students
Week 11	Student initiated topics II	1,2,3	Jointly determined by instructor and students
Week 12	Student initiated topics III	1,2,3	Jointly determined by instructor and students
Week 13	Student initiated topics IV	1,2,3	Jointly determined by instructor and students