

Course Code	HP4222
Course Title	The Neuroscience of Love
Pre-requisites	HP1000 Introduction to Psychology, HP1100 Fundamentals of Social Science Research, HP2200 Biological Psychology
No of AUs	4

Course Aims

This course provides you with an advanced introduction to empirical findings, methods, and theoretical perspectives from the field of social neuroscience. The main purpose of this course is for you to acquire knowledge on the physiological mechanisms that mediate social relationships and pair-bonding. The secondary aim of this course is for you to develop their critical appraisal of how social relationships influence cognitive and affective processes and development in humans. Each seminar will begin with an illustration of a social relationship (e.g. Romeo and Juliet), derived from a broad swath of avenues from classical literary and contemporary sources. The central neuroscientific concept behind the case in point will be extricated, before the mechanisms and scientific empirical cases related to that concept, discussed.

Intended Learning Outcomes (ILO)

By the end of this course, you (as a student) would be able to:

1. Explain how different physiological mechanisms modulate social relationships across human and other animal species.
2. Evaluate evidence from the domain of applied human physiology and social neuroscience.
3. Interpret the results of published scientific papers on social neuroscience.
4. Apply research skills in neuroscientific methods to study various human relationships (e.g. in the context of romantic love, parent-child bonding, friendship)
5. Summarize research projects competently to an academic or professional audience via both written and oral presentation

Course Content

The course is organized along the following topics:

- (i) research methods in social neuroscience;
- (ii) physiological mechanisms of relationships, love and marriage;
- (iii) neural and hormonal bases of social interaction;

- (iv) physiological systems underlying parenting and parent-child relationships;
- (v) mechanisms behind cross-cultural and cross-species affection
- (vi) how adverse experiences in the context of relationships (e.g. abuse, separation) influences human behavior (i.e. the development of envy, depression and self-awareness).

Assessment (includes both continuous and summative assessment)

Component	Course LO Tested	Related Programme LO or Graduate Attributes	Weighting	Team/ Individual	
1.Learning Activities	1,2,3	Competence, Critical Thinking, Teamwork	25	Team	
2.Research Project or Technological White Paper	1,2,3,4, 5	Competence, Critical Thinking, Written Communication	50	Individual	
3.Presentation	1,2,3,4, 5	Competence, Critical Thinking, Written and Oral Communication	25	Individual	
Total			100%		

Formative feedback	
<p>You will receive feedback on their recall of key material through quizzes, and on their ability to describe anatomical differences and key methods and findings in psycholinguistics during in-class oral activities. Students will also receive feedback on their understanding of key comparative differences in the feedback on their Public Science project. The end of Semester exam will provide summative feedback of students' ability to recall and describe key findings with accuracy.</p>	
Learning and Teaching approach	
Approach	How does this approach support you in achieving the learning outcomes?
Tutorials	Tutorials will effectively present and clarify evidence about the physiology behind social relationships, as well as encourage your engagement in class discussions (L01,2,3)
Interactive classroom activities	Various activities (case studies, team-based learning etc.) to help you critically engage with the material presented in class (L01,2,3), and share your opinions and discussions with the entire class (L04).
Reading and References	
<p>No textbook currently exists covering the breadth and depth of content in the course. Reading will be allocated from variety of sources, including selected sections from the following textbooks, along with journal articles including those in the list below. The reading list will be adapted each time the course is taught to update it to the latest developments in the field.</p>	
Course Policies and Student Responsibilities	
(1) General	
<p>Students are expected to complete all assigned pre-class readings and activities, attend all seminar classes punctually and submit all scheduled assignments and tests by due dates. Students are expected to take responsibility to follow up with course notes, assignments and course related announcements for seminar sessions they have missed. Students are expected to participate in all seminar discussions and activities.</p>	
(2) Absenteeism	

Absence from class without a valid reason (i.e. medical reasons/ other approved leaves from NTU) will affect your overall course grade. If you miss a seminar session, you must inform the course coordinator via email.

(3) Compulsory Assignments

You are required to submit in-class assignments, for team-based class activities, on the same day of the tutorial. You are also required to submit your online compulsory assignment(i.e. research report) by the due date.

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

Week	Topic	Course LO	Readings/ Activities
1	What is Love? - Introduction to the Field of Social Neuroscience	1,2,3,4	1 hour seminar+ 2 hours group discussion
2	Part I: What do We Talk About When We Talk About Love? - 10 Open Questions in Social Neuroscience Part II: The Measure of Love - Research Methods in Social Neuroscience	1,2,3,4	1 hour seminar + 2 hours group discussion

3	I Love You with All My Heart - Subcortical Structures and Hormonal Systems Influencing Love	1,2,3,4	1 hour seminar + 2 hours group discussion
4	I Love You with All My Brain - Cortical Structures Influencing Love	1,2,3,4	1 hour seminar+ 2 hours group discussion
5	Love in the Mirror - Mirror Neurons and the Neural Basis of Social Interaction	1,2,3,4	1 hour seminar+ 2 hours group discussion
6	<Group Initial Report>	1,2,3,4,5	Group Presentations
7	Love in Humans - Neuroscience of Romantic Love, Familial Love and Friendship	1,2,3,4	1 hour seminar+ 2 hours group discussion
8	Symbiosis and Love Across Species - Affectionate Behaviours Between Human-Animal and Other Cross-Species Relationships	1,2,3	1 hour seminar+ 2 hours group discussion
9	Part I: The Things I do for Love - Cognition and Decision-making in the Context of Love Part II: Cross-cultural Perception of Love - Love and Relationships Across Cultures	1,2,3	1 hour seminar + 2 hours group discussion
10	Part I: I Want to Break Free -When Things go Wrong; Neuroscience in the Context of Love, Heartbreak and Separation Part II: The Dark Side of Love -Jealousy, Stalking, Envy & Rage	1,2,3	1 hour seminar+ 2 hours group discussion
11	Part I: <i>Mother's Love</i> - Neuroscience of Parenting, Parent-Child Relationships Part II: Marry Me - Neuroscience of Marriage, Long-Term Relationships	1,2,3,4	1 hour seminar+ 2 hours group discussion
12	Student Research Project Presentation	1, 2, 3, 4, 5	Students Presentations
13	Student Research Project Presentation	1,2,3,4,5	Students Presentations