



**CALICUT UNIVERSITY – FOUR-YEAR UNDER  
GRADUATE PROGRAMME (CU-FYUGP)**

**BSc PSYCHOLOGY**

Programme	B. Sc. Psychology				
Course Title	<b>Biological Basis of Behaviour</b>				
Type of Course	Major with Practicum				
Semester	IV				
Academic Level	200 – 299				
Course Details	Credit	Lecture per week	Tutorial per week	Practical per week	Total Hours
	4	3	-	2	75
Pre-requisites	Nil				
Course Summary	This course provides the foundational level understanding on different biological processes and their relationship with behaviour. The course deals with the structure and functions of different systems which regulates behaviour and introduces various research methods for studying the brains and behaviour.				

**Course Outcomes (CO):**

CO	CO Statement	Cognitive Level*	Knowledge Category#	Evaluation Tools used
CO1	Explain the structure and functions of the nervous system and process of Neuronal Communication and brain plasticity	R	F	Instructor-created exams / Quiz
CO2	To understand the Neural Mechanism of sensory processing, movement, internal regulation, emotion, learning and memory	U	C	Seminar/ Assignment
CO3	To explain the role of Endocrine system in regulating behaviour	U	C	Seminar Presentation / Group Tutorial Work
CO4	To understand the role of Genetics in determining behaviour	U	F	Instructor-created exams / Home Assignments

CO5	To Critically analyse different assessments and research methods to study brain and behaviour	E	P	Reflection Writing assignments & presentations
* - Remember (R), Understand (U), Apply (Ap), Analyse (An), Evaluate (E), Create (C) # - Factual Knowledge(F) Conceptual Knowledge (C) Procedural Knowledge (P) Metacognitive Knowledge (M)				

### Detailed Syllabus:

Module	Unit	Content	Hrs (45 +30)	Marks (70)
<b>I</b>	<b>The Nervous System</b>		<b>15</b>	<b>25</b>
	1	Neurons, Cell body, dendrites, axons, Blood brain barrier, Cerebrospinal fluid	2	
	2	Structure and Functions of Nervous system : Central Nervous System (CNS) -Brain and Cerebral hemisphere- ( CNS) Forebrain, Midbrain, Hindbrain, Ventricles and cerebral cortex	2	
	3	The spinal cord-structure and functions.	2	
	4	Peripheral Nervous System (PNS) ( spinal nerve and cranial nerve)- Somatic and Autonomic nervous system	2	
	5	Neuronal Communication: Neuronal Signalling : Action potentials and synaptic transmission	2	
	6	Neurotransmitters : Major neurotransmitters – acetylcholine, monoamine, amino acids, peptides, lipids, nucleosides, soluble gases and their roles	2	
	7	Neurotransmitter imbalances and their implication-drug addictions	1	
	8	Brain plasticity, Factors affecting brain plasticity	1	
	9	Neurogenesis, brain mapping, synaptic pruning,	1	
<b>II</b>	<b>Brain and Behaviour</b>		<b>12</b>	<b>15</b>
	10	Brain structure that regulates sleep. Brain activity related with stages of sleep and dreaming.	6	
	11	Biological mechanism related to learning	2	
	12	Biological mechanisms related with memory	2	
	13	Neuronal basis of emotional regulation	2	
<b>III</b>	<b>Hormonal and Genetic Influences on Behaviour</b>		<b>10</b>	<b>15</b>
	14	Major Endocrine Glands and Their Hormones	4	

	15	The pituitary gland, thyroid gland, adrenal glands, pancreas, gonads, and their hormones Mechanism of action and different hormonal systems	2	
	16	Genetics and Behaviour	4	
	17	Sex linked and sex-limited genes Gene mutations and genetic disorders Heredity and environment ,Evolution of behaviour	2	
<b>IV</b>	<b>Methods and strategies of research</b>		<b>8</b>	<b>15</b>
	18	Experimental Ablation	1	
	19	Lesion study, Stereotaxic surgery, Histological method tracing neural connections,	2	
	20	Recording and stimulation neural activity - study brain by stimulating activity of specific brain region	2	
	21	Micro electrodes, macro electrodes, magnetoencephalography, CT, PET,MRI, fMRI	1	
	22	Twin study, Adoption study, Split brain studies	2	
<b>V</b>	<b>Practicum</b>		<b>30</b>	
		<p>Students are expected to present a report of any two of the following Activities:</p> <p><i>Field Trips:</i> Organize field trips to real-world applications of neuroscience and the latest research in the field.(eg: Scanning centers)</p> <p><i>Brain Model Making:</i> students can use materials like clay, paper mache, or craft supplies to create models of different brain structures. They can label the structures and present them to the class, explaining their functions.</p> <p><i>Artistic Expression of Brain Function:</i> They can create visual representations of neurons, brain regions, or neurotransmitter systems, incorporating their knowledge into creative artworks through artistic medium of drawing or painting</p> <p><i>Role-Playing Activities:</i> Assign students roles such as neurons, neurotransmitters, or brain regions, and conduct a role-playing activity to simulate neuronal communication. This will help students understand concepts like action potentials and synaptic transmission in a fun and interactive way.</p> <p><i>Case Studies:</i> students write a report on real-life case studies of neurological disorders or endocrine disorders.</p>	30	

**Books and References:**

Costandi, M. (2016). Neuroplasticity. MIT press

Kolb, B., & Whishaw, I. Q. (1998). Brain plasticity and behavior. Annual Review of Psychology, 49, 43–64. Carlson NR (2005) Foundations of physiological psychology, Pearson education

James Kalat (2013) Biological psychology, Oxford university

Kelly g lamabart Biological psychology, Oxford university

Pinel.J.p (2015) Biopsychology. Pearson education

Hiller-Sturmhöfel, S., & Bartke, A. (1998). The endocrine system: an overview. Alcohol health and research world, 22(3), 153–164

Sembulingam, K, essentials of medical Physiology, 3rd edition

**Note:** The course is divided into five modules, with four modules together having total 22 fixed units and one open-ended module with a variable number of units. There are total 45 instructional hours for the fixed modules and 30 hours for the open-ended one. Internal assessments (30 marks) are split between the open-ended module (20 marks) and the fixed modules (10 marks). The final exam, however, covers only the 22 units from the fixed modules. The 70 marks shown in the last column, distributed over the first four modules, is only for the external examination.

**Mapping of COs with PSOs and POs :**

	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	3	-	2	-	-	3	-	-	-	-	3	-
CO 2	3	-	2	-	-	-	2	-	-	1	-	2
CO 3	3	-	2	-	3	-	-	-	-	-	-	-
CO 4	3	-	3	1	-	-	-	2	-	2	3	-
CO 5	-	1	-	-	-	-	-	-	-	-	--	3
CO 6	-	-	-		-	-	-	-	3	-	-	-

### Correlation Levels:

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

### Assessment Rubrics:

- Quiz / Assignment/ Quiz/ Discussion / Seminar
- Internal exam
- Assignments
- Final Exam (70%)

### Mapping of COs to Assessment Rubrics :

	Internal Exam	Seminar/ Assignment	Seminar / Discussions	End Semester Examinations
CO 1	✓		✓	✓
CO 2	✓	✓		✓
CO 3	✓	✓		✓
CO 4	✓	✓		✓
CO 5	✓		✓	✓
CO 6				



**CALICUT UNIVERSITY – FOUR-YEAR UNDER  
GRADUATE PROGRAMME (CU-FYUGP)**

**BSc PSYCHOLOGY**

**SEMESTER IV**

Programme	B. Sc. Psychology				
Course Title	<b>Child and Adolescent Development</b>				
Type of Course	Major with Practicum				
Semester	IV				
Academic Level	200 - 299				
Course Details	Credit	Lecture per week	Tutorial per week	Practical per week	Total Hours
	4	3	-	2	75
Pre-requisites	NIL				
Course Summary	<p>This course titled development of child and adolescent outlines the characteristic of lifespan perspective, nature of development and research in lifespan development. It analyses various respective dimensions of development like physical, cognitive, language, socio-emotional and moral development from prenatal period to adolescence. The successful completion of the course will enable the students to understand and deal effectively with their own journey of development and to help other people to improve their life. Understanding of normal development is prerequisite for learning applied branches of Psychology, which will show career path for the student. So, it will be a milestone for the Psychology graduate to delve into the intricacies of development and appreciate it.</p>				

**Course Outcomes (CO):**

CO	CO Statement	Cognitive Level*	Knowledge Category#	Evaluation Tools used
CO1	Describe concepts and theories related to various dimensions of child and adolescent development	U	F	Instructor-created exams / assignment/Quiz/seminar

CO2	Apply the knowledge of child and adolescent development to real world situations and helps to address various challenges and crisis associated with stages of development.	Ap	C	Practical Assignment / Observation of Practical Skills/seminar
CO3	Design experiments and conduct psychological tests to analyse different concepts of development to build research aptitude in developmental psychology.	Ap	P	Viva/practical exam Report writing
CO4	Critically evaluate theories related to different aspects of development.	E	M	Seminar/debate
CO5	Investigate the intricacies of social and emotional development and create report on it.	C	P	Assignment /seminar/report writing
CO6	Appreciate various aspects of development like physical, cognitive, social and language through different stages of development by relating it to their own personal journey through life.	An	C	Viva Voce/observation/
<p>* - Remember (R), Understand (U), Apply (Ap), Analyse (An), Evaluate (E), Create (C)  # - Factual Knowledge(F) Conceptual Knowledge (C) Procedural Knowledge (P)  Metacognitive Knowledge (M)</p>				

### Detailed Syllabus:

Module	Unit	Content	Hrs (45 +30)	Marks (70)
<b>I</b>	<b>Introduction to Developmental Psychology</b>		<b>10</b>	<b>18</b>
	1	Historical foundations. Lifespan perspective- characteristics of lifespan perspective.	2	
	2	Nature of development- Biological, Cognitive, and Socioemotional Processes. Periods of Development. Developmental tasks of each stage. The Significance of Age. Developmental Issues.	2	

	3	Theories of development(brief): Freud, behaviourist, social learning, Erikson, Ethological theory and Ecological theory	2	
	4	Role of heredity and environment: The nature nurture debate	2	
	5	Research in lifespan development: methods, designs and ethics (brief)	2	
<b>II</b>	<b>Physical growth and development from Prenatal period to adolescence.</b>		<b>10</b>	<b>17</b>
	6	Prenatal Development: Fertilization, Germinal Period, Embryonic Period, Fetal Period. Prenatal environmental influences- Teratogens, other maternal factors	2	
	7	Birth Process: Types, methods- Prenatal and perinatal diagnostic tests. Birth Complication and their effects	2	
	8	Physical and motor development: patterns of growth, the development of brain and body, need for sleep and nutrition. New born Reflexes, Gross and fine motor skills.	2	
	9	Sensory and perceptual development: development of visual and other senses.	2	
	10	Pubertal changes in boys and girls. The impact of pubertal events. Factors affecting physical development. Parent child relationships	2	
<b>III</b>	<b>Cognitive development</b>		<b>12</b>	<b>13</b>
	11	Piaget's theory of Cognitive Development: Process of development, 4 stages- Sensory Motor, Preoperational, Concrete operational and Formal Operational stage.	4	
	12	Vygotsky's Sociocultural Cognitive Theory	2	
	13	Language development: Prelinguistic, Phonological, Semantic, Grammatical and Pragmatic development.	3	
	14	Theories of language development	2	
	15	Critical evaluation of cognitive development theories.	1	
<b>IV</b>	<b>Socio emotional development from infancy to adolescence</b>		<b>13</b>	<b>22</b>
	16	Temperament-Classifications	2	
	17	Emotions-types of emotions. Emotional behaviour from infancy to adolescence	2	
	18	Development of self -Erikson, Marcia-Identity development. Gender identity, the role of peer group and media.	2	
	19	Process of Socialisation from infancy to adolescence.	1	
	20	Development of attachment -Bowlby's and Ainsworth's theory, Factors affecting attachment.	2	
	21	Moral development-theories: Piaget, Kohlberg.	2	
	22	Role of family, parenting, play, peer relations friendship and media in socio emotional development	2	

<b>V</b>	<b>Experiments, Practical Applications and Course Project</b>		<b>30</b>	
	1	Carry-out any three experiments of the following - two experiments from the given list and one additional experiment of instructor's choice: <ol style="list-style-type: none"> <li>1. Parenting styles</li> <li>2. Peer relationship questionnaire</li> <li>3. Conformity behaviour</li> <li>4. Family relationship inventory</li> </ol>	10	
	2	Carry-out any three experiments of the following - two experiments from the given list and one additional experiment of instructor's choice: <ol style="list-style-type: none"> <li>1. Temperament rating scale</li> <li>2. Attachment style questionnaire.</li> <li>3. Self-concept</li> <li>4. Risk taking behaviour</li> </ol>	10	
3	Students are expected to submit a report of any two of the following Activities. <ol style="list-style-type: none"> <li>1. Conduct experiment on selected cognitive development stages of Piaget using improvised aids and make a report on it E.g.1. A not B error</li> <li>2. Egocentrism-three mountain experiment.</li> <li>3. Conservation-jar experiment</li> <li>2. Make an observation report on any stage of language development.</li> <li>3. Analyse peer status of a group of adolescent students using sociometric technique.</li> <li>4. Make a report on social skills of children using social skill rating system.</li> <li>5. Make an elementary school success profile.</li> </ol>	10		

**Books and References:**

- Berk, L.E (2016). *Exploring lifespan development*. New Delhi: Pearson Education Pvt Ltd
- Hurlock, E.B (1996). *Developmental Psychology-A Life span Approach*. New Delhi: Tata McGraw Hill Publishing Company
- Papalia, D.E et.al (2004). *Human Development* (9th Ed). New Delhi: Tata McGraw Hill Publishing Company
- Santrock, J.E (2011). *Life span development* (13<sup>th</sup> Ed) New Delhi: Tata McGraw Hill Publishing Company.

**Note:** The syllabus has five modules. There should be total 22 units in the first four modules together, composed of the theory topics. The number of units in the last module can vary. There are 45 instructional hours for the first four modules and 30 hrs for the final one. Module V is designed to equip students with practical skills. The 20 marks for the evaluation of practical will be based on Module V. Internal assessments (30 marks) are split between the

practical module (20 marks) and the first four modules (10 marks). The end-semester examination for the theory part will be based on the 22 units in the first four modules. The 70 marks shown in the last column, distributed over the first four modules, is only for the external examination.

**Mapping of COs with PSOs and POs:**

	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	2	-	-	2	-	2	-	-	-	-	1	-
CO 2	-	2	-	-	-	-	-	-	-	-	-	2
CO 3	1	-	3		-	-	2	-	-	2	-	-
CO 4	2	-	-	-	-	-	-	-	3	-	-	-
CO 5	-	3	2	3	1	-	-	3	-	-	3	-
CO 6	-	-	-	-	3	-	-	-	-	-	-	3

**Correlation Levels:**

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

**Assessment Rubrics:**

- Quiz / Assignment/ Discussion / Seminar
- Midterm Exam
- Minor project/experiments/Report writing / Practicals (20%)
- Final Exam (70%)

### Mapping of COs to Assessment Rubrics

	Internal Exam	Assignment	Project/Practical Evaluation	End Semester Examinations
CO 1	✓	✓		✓
CO 2	✓	✓		✓
CO 3	✓			✓
CO 4	✓	✓		✓
CO 5	✓	✓	✓	
CO 6	✓			



**CALICUT UNIVERSITY – FOUR-YEAR UNDER  
GRADUATE PROGRAMME (CU-FYUGP)**

**BSc PSYCHOLOGY**

Programme	BSc Psychology				
Course Title	<b>Foundations of Social Behaviour</b>				
Type of Course	Major with Practicum				
Semester	IV				
Academic Level	200-299				
Course Details	Credit	Lecture per week	Tutorial per week	Practical per week	Total hours
	4	3	-	2	75
Pre-requisites, if any	Nil				
Course Summary	Social psychology explores the individual behaviour in social setting. It includes the scope, methods of social psychology, social perception, group, social influence, leadership, interpersonal attraction and prosocial behaviour. It equips the students to implement the role of social behaviour to interpret real-world situations.				

**Course Outcomes (CO)**

CO	CO Statement	Cognitive Level*	Knowledge Category #	Evaluation Tools used
CO1	Demonstrate the fundamental definitions, goals, scope and methods of social psychology as a scientific discipline.	R	F	Practical Assignment / seminar presentations/ case discussions
CO2	To understand the influence of social perception by nonverbal communication, attitudes and attribution.	U	C	Group discussion/ analysing case studies/seminar presentations/test paper

CO3	To analyze the impact of group interactions, leadership and social influence on individual behaviour.	A	P	Group discussion /Case study presentations/ Viva voce
CO4	To evaluate the role of social psychology in shaping patterns of interpersonal attraction and prosocial behaviour.	E	P	Seminar presentation/ group discussion / assignment
CO5	To be able to implement the role of social behaviour to interpret real-world situations.	Ap	M	Test paper/case discussions/ Viva voce
Remember (R), Understand (U), Apply (Ap), Analyse (An), Evaluate (E), Create (C) # - Factual Knowledge(F) Conceptual Knowledge (C) Procedural Knowledge (P) Metacognitive Knowledge (M)				

### Detailed Syllabus

Module	Unit	Content	Hrs (45+30)	Marks (70)
<b>I</b>	<b>Social Psychology-an Overview</b>		<b>8</b>	<b>10</b>
	1	Origin and Development of Social Psychology	2	
	2	Definition and Goal	1	
	3	Scope of Social Psychology	2	
	4	Methods of social psychology- Systematic observation, survey, correlation, experimental method	3	
<b>II</b>	<b>Social Perception, Attribution and Attitudes</b>		<b>13</b>	<b>20</b>
	5	Social Cognition- heuristics, schemas, errors in social cognition.	2	
	6	Social Perception-Definition	1	
	7	Non-Verbal Communication- facial expression, gazes, stares, body language, touching	2	
	8	Deception and micro expressions	1	
	9	Attribution - Definition, Theories - Correspondence inference, Kelly's theory,	2	
	10	Applications of attribution theory, Attribution Errors.	1	
	11	Attitude - Definition, components, functions and formation of attitudes.	3	
	12	Attitude behaviour link	1	

III	<b>Group, Leadership and Social Influence</b>		12	20
	13	Groups: Definition, types and functions.	3	
	14	Social facilitation and social loafing	2	
	15	Leadership – Types -Autocratic, democratic, laissez-faire. Theories- Great man theory, trait theory, transformational theory.	3	
	16	Social influence: Conformity, Factors affecting conformity. Compliance: Underlying Principles and tactics. Tactics in Online shopping, Obedience and destructive obedience.	4	
IV	<b>Interpersonal Attraction and Prosocial Behaviour</b>		12	20
	17	Interpersonal attraction: beginning of attraction, proximity, emotions, affiliation need. Becoming acquainted- situational determinants	3	
	18	Social media and relationship development	1	
	19	Love- Triangular Model of love.	1	
	20	Responding to emergency- Steps	2	
	21	Prosocial behaviour- Altruistic personality. Volunteering.	2	
	22	Explaining prosocial behaviour: Empathy altruism model, negative state relief model, empathic joy hypothesis, genetic determinism	3	
V	<b>Activities</b>		30	
		<p>Students are expected to present a report of any two of the following Activities.</p> <ol style="list-style-type: none"> <li>1. Identify and make familiar with research Identify and make familiar with research methods in social psychology</li> <li>2. Students can conduct practical sessions related to nonverbal communication and identify micro expressions related to deception.</li> <li>3. Organize Group discussion of different social psychology topics in the class room and prepare report.</li> <li>4. Students can be assigned to practice tactics related to social influence.</li> <li>5. Students can be assigned to do personal place role play</li> </ol> <p>Students can perform and experience prosocial behaviour and related factors</p>		

## Books and References

- Baron, R.A., Branscombe, N.R., Byrne, D., & Bhardwaj, G. (2009). *Social Psychology, 12th ed.* New Delhi: Pearson Education.
- Baron, R.A., & Byrne, D. (2002). *Social Psychology, 10th ed.* New Delhi: Pearson Education.
- Chaube, S.P., & Chaube, A. (2006). *Groundwork for Social Psychology (Vol.1)*.Hyderabad: Neelkamal Publications Pvt.Ltd.
- Feldman, R.S. (2001). *Social Psychology, 3rd ed.* N J. Pearson Education.
- Michener, H. A., Delamater, J.D., & Myers, D.J. (2004). *Social Psychology.* Australia: Thomson Wadsworth Publication.
- Myers, D.G. (1999). *Social Psychology, 7th ed.* New Delhi : Pearson Education
- Schneider, F.W., Gruman, J.A., & Coutts, L.M. (2005). *Applied Social Psychology: Understanding and addressing social and practical problems.* New Delhi: Sage

## Suggested Readings

- Imam, E. & Tanisha A,C. (2023). Role of social media in interpersonal relationship among youth, *interpersonal journal for modern trends in science and technology*, 9, 11-18
- Orben, A.C. & Dunbar R.I.M (2017). Social media and relationship development; effect of valence and intimacy of posts, *computers in human behaviour*, Science direct, 73,489-498.
- Thomas, L. (2019). *Online retailer tactics and impulse buying: consumers welcome tools to avoid it.* University of Michigan news, university of Michigan.

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## Mapping of COs with PSOs and POs:

	PSO1	PSO2	PSO3	PSO4	PSO5	PO1	PO2	PO3	PO4	PO5	PO6	PO7
CO 1	3	2	-	-	1	3	2	-	-	1	-	3
CO 2		3	1	2	1	3	-	-	-	2		2
CO 3	2	3	-	3	2	3	2	-	1	3	1	2
CO 4	3	3	-	1	1	3		1	-	2	-	1
CO 5	3	-	1	-	3	-	1	-	2	-	3	1

### Correlation Levels:

Level	Correlation
-	Nil
1	Slightly / Low
2	Moderate / Medium
3	Substantial / High

### Assessment Rubrics:

- Assignment/ Quiz/ Discussion / Seminar
- Midterm Exam
- Project/ Practical/ Experiment (20%)
- Final Exam (70%)

### Mapping of COs to Assessment Rubrics:

	Internal Exam	Assignment	Project Evaluation	End Semester Examinations
CO 1	✓	✓		✓
CO 2	✓	✓	✓	✓
CO 3		✓	✓	
CO 4			✓	
CO 5	✓	✓	✓	✓