



**O.P. Jindal Global University**  
*A Private University Promoting Public Service*



**Jindal School of  
Psychology & Counselling**  
*India's First Transdisciplinary Psychology School*

**Applied Neuropsychology: Brain in Everyday Life**

**PCCU-04BAPANBL4056**

**JSPC B.A. (Hons.)**

**Fall Semester 2026**

## **Course Information**

**Course Duration:** 15 Weeks

**Credit Hours:** 60 hours

**Course Instructor –**

Dr. Smriti Pathak

**Meetings:** On request

**Location:** FOB, Ground floor

### **Prerequisites:**

**Students must possess the following prerequisites to effectively engage with this course:**

- Students must be enrolled in a Psychology program, as this is a *school-specific elective* designed for learners with foundational disciplinary exposure.
- Students must have familiarity with basic concepts of biological psychology or neuroscience, enabling them to understand fundamental brain structures and functions.
- Students must possess foundational knowledge of key cognitive processes, including attention, memory, and emotion, which are essential for understanding applied neuropsychological concepts.
- Students must demonstrate a basic understanding of brain–behavior relationships, including how neural mechanisms influence everyday functioning.
- Students must be able to apply psychological concepts to everyday behaviour and experiences, facilitating the integration of theoretical knowledge with real-world contexts.

**Equivalent Courses:** Brain & Behaviour

**Exclusive Courses:**

## **Instructor Information**

**Instructor:**

Dr. Smriti Pathak

### **Biography:**

Dr. Smriti Pathak is a faculty member at the Jindal School of Psychology and Counselling, O.P. Jindal Global University. She holds a Ph.D. from IIT Kharagpur, where her research focused on decision-making processes. She is also a Registered Clinical Psychologist (RCI), with prior experience in clinical practice. Her research interests include decision-making, emotion,

loneliness, and wisdom, with an emphasis on understanding how these processes influence everyday functioning and well-being.

**Email:**

[smriti.pathak@jgu.edu.in](mailto:smriti.pathak@jgu.edu.in)

**Phone:** NA

**Office:** FOB, North 3rd -07

**Office Hours:** On request

**Homepage:** <https://jgu.edu.in/jspc/faculty/dr-smriti-pathak>

## 1. Course Description

This paper is a *school-specific* offering designed to align with the academic priorities and applied learning objectives of the programme. This course introduces students to the application of neuroscience in understanding everyday life and behaviour. Moving beyond a focus on clinical disorders, it highlights how brain science informs daily functioning, including sleep, nutrition, attention, emotional regulation, empathy, and critical thinking. The course follows a learning-centered and activity-based approach, where students actively engage with concepts through self-monitoring, reflection, and applied tasks. It emphasizes the connection between theoretical knowledge and real-world application, enabling students to understand how neural processes shape behaviour and decision-making. Overall, the course aims to build scientific thinking, critical evaluation, and practical application skills in the context of everyday brain functioning.

## 2. Course Learning Objectives (Aims)

<b>Course Intended Learning Outcomes</b>	<b>Teaching and Learning Activities</b>	<b>Assessments and Activities</b>
Apply neuroscience concepts to everyday behaviour (sleep, nutrition, attention, emotion, technology use).	Lectures; Self-monitoring (sleep, lifestyle tracking); Class discussions	Reflective Sleep Pattern Analysis (15%); Class Participation (10%)
Understand and critically evaluate core concepts of	Readings; Case examples; Concept-based discussions	Mid-Sem Quiz (30%)

<p>applied neuropsychology and brain–behavior relationships.</p> <p>Analyze the impact of lifestyle and environmental factors on cognitive and emotional functioning.</p>	<p>Activity-based learning;</p> <p>Real-life applications;</p> <p>Media/article analysis</p>	<p>Integrated within assignments</p>
<p>Demonstrate application of assessment and intervention principles in everyday contexts.</p>	<p>Case-based learning;</p> <p>Applied exercises; Group work</p>	<p>Case &amp; Intervention Project (15%)</p>
<p>Develop critical thinking skills to evaluate neuromyths and scientific claims about the brain.</p>	<p>Debates/discussions;</p> <p>Media analysis activities</p>	<p>Class Participation (10%);</p> <p>Quiz components</p>
<p>Integrate concepts across modules and apply them in structured written and analytical formats.</p>	<p>Revision sessions;</p> <p>Concept integration</p>	<p>End-Term Examination (30%)</p>

## 2. Scheme of Evaluation and Grading

This course will follow a continuous assessment system throughout the semester, with evaluation based on a **70:30 internal–external grading scheme** contributing to the final term-end assessment.

### Grade Breakdown

Assessment	%	Points
Class Participation	10	10
Mid Sem (Quiz and short answer )	30	30
Reflective Sleep Pattern Analysis -Individual Assignment	15	15
Applied Neuropsychology Case & Intervention Project-Group Assignment	15	15
End-Term Examination (Closed book )	30	30
Total	100	100

#### Class Participation (10%)

Class participation will be assessed based on behavior, quality of content discussion, and other relevant factors.

#### Mid Sem Quiz (30%)

A quiz will be conducted during the **6th week of teaching** to assess student understanding of core concepts covered in the initial modules. The quiz will include objective-type questions (MCQs, short responses) focusing on conceptual clarity and basic application.

#### Reflective sleep pattern analysis (15%) -Individual assignment

Students will maintain a structured sleep diary and reflect on their sleep patterns in relation to attention, mood, and daily functioning. The assignment requires integrating personal observations with neuroscientific concepts to draw evidence-based insights about sleep and cognitive performance.

#### Applied Neuropsychology Case & Intervention Project (15%)-Group Assignment

Students will work in groups on a real-life case scenario to identify underlying cognitive processes and design a structured, evidence-based intervention plan. The assignment emphasizes application of neuropsychological principles to practical, everyday contexts.

### Final Exam (Closed book ) (30%)

There will be an in-class examination(Closed book ) at the end of the semester. The exam will be composed of short answers and more detailed long answer questions.

### Grade Definition

Grade	Percentage of Marks	Grade Value	Grade Description
<b>O</b>	80% and above	8	<b>Outstanding:</b> Exceptional knowledge of the subject matter, thorough understanding of issues; ability to synthesize ideas, rules, and principles; and extraordinary critical and analytical ability.
<b>A+</b>	75 - 79.75%	7.5	<b>Excellent:</b> Sound knowledge of the subject matter, thorough understanding of issues; ability to synthesize ideas, rules and principles; and critical and analytical ability.
<b>A</b>	70 - 74.75%	7	<b>Very Good:</b> Sound knowledge of the subject matter, organizational capacity; ability to synthesize ideas, rules, and principles; critically analyze existing material and originality in thinking.
<b>A-</b>	65 - 69.75%	6	<b>Good:</b> Good understanding of the subject matter, ability to identify issues and provide balanced solutions to problems; good critical and analytical skills.
<b>B+</b>	60 - 64.75%	5	<b>Fair:</b> Average understanding of the subject matter, limited ability to identify issues and provide solutions to problems; reasonable critical and analytical skills.
<b>B</b>	55 - 59.75%	4	<b>Acceptable:</b> Adequate knowledge of the subject matter to go to the next level of the study; passable critical and analytical skills.
<b>B-</b>	50 - 54.75%	3	<b>Marginal:</b> Limited knowledge of the subject matter and irrelevant use of materials; poor critical and analytical skills.
<b>P1</b>	45 - 49.75%	2	<b>Pass 1:</b> Pass with a passable understanding of the subject matter; lacking in critical and analytical skills.
<b>P2</b>	40 - 44.75%	1	<b>Pass 2:</b> Pass with a rudimentary understanding of the subject matter; lacking in critical and analytical skills.
<b>F</b>	Below 40%	0	<b>Fail:</b> Poor comprehension of the subject matter; poor critical and analytical skills; and marginal use of the relevant materials. Requires the student to repeat the course.
<b>P/F</b>	Pass / Fail	NA	<b>Pass or Fail: Pass is awarded with a final grade of 40% or above. Fail reserved for the final grade below 40%. This option (selected at the start of the semester) is only available for semesters taught online.</b>

<b>I</b>	Incomplete	NA	<b>Incomplete: Issued due to extenuating circumstances that prevent the student from completing internal or external marks. If an 'I' grade is assigned, the JSPC Academic Committee will suggest a schedule for the completion of work, or a supplementary examination.</b>
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### 3. Classes Plan

#### Class Lecture Plan:

The classroom lectures span over 15 weeks. Each week may comprise two lectures, each lecture with a duration of 120 minutes. The following topics from course will be covered during the 15 weeks duration:

Session	General Topic	Objectives	Readings
Week 1-2	Neuropsychology of Everyday Life	<ul style="list-style-type: none"> <li>• Overview of the course and objectives</li> <li>• Introduction to Neuropsychology and its Scope</li> <li>• Neuropsychology in Relation to Other Disciplines and Methods</li> <li>• Brain Evolution and Human Adaptation</li> <li>• Structure and Organization of the Brain (Grey/White Matter, Cytoarchitecture)</li> <li>• Cerebrovascular System and Brain Functioning</li> <li>• Historical Perspectives and Theoretical</li> </ul>	<ul style="list-style-type: none"> <li>• An introduction to Neuropsychology, Tupper &amp; Cicerone.</li> </ul>

		Approaches in Neuropsychology	
Week 3–4	Sleep and Brain Function	<ul style="list-style-type: none"> <li>• Sleep architecture (NREM, REM)</li> <li>• Circadian rhythms</li> <li>• Sleep and Attention Networks</li> <li>• Synaptic Homeostasis and Brain Restoration</li> <li>• Glymphatic System and Brain Health</li> <li>• Importance of Sleep in Cognitive Functioning</li> <li>• Effects of Sleep Deprivation on Cognition</li> <li>• Neural Mechanisms of Sleep Deprivation</li> </ul>	<ul style="list-style-type: none"> <li>• Wakefulness and sleep- James Kalat</li> <li>• Khan, M. A., &amp; Al-Jahdali, H. (2023). The consequences of sleep deprivation on cognitive performance. <i>Neurosciences Journal</i>, 28(2), 91-99.</li> <li>• <i>Introduction of individual assignment</i></li> </ul>
Week 5	Nutrition and Cognition	<ul style="list-style-type: none"> <li>• Modifiable lifestyle factors-diet, physical activity, and social engagement,.</li> <li>• Nutrition across the life course</li> <li>• Dietary patterns - Mediterranean, DASH, MIND diets.</li> <li>• The gut–brain axis.</li> </ul>	<ul style="list-style-type: none"> <li>• Puri, S., Shaheen, M., &amp; Grover, B. (2023). Nutrition and cognitive health: A life course approach. <i>Frontiers in public health</i>, 11, 1023907.</li> </ul>
<b>Week 6</b>		<b>Mid-Semester Exam</b>	
Week 7–8	Technology and Attention	<ul style="list-style-type: none"> <li>• Digital Multitasking and Cognitive Load</li> <li>• Impact on Attention and Memory</li> </ul>	<ul style="list-style-type: none"> <li>• The Biology of Learning and Memory, James Kalat</li> <li>• Hasan, M. K. (2024). Digital multitasking</li> </ul>

		<ul style="list-style-type: none"> <li>• Effects on Executive Functioning</li> <li>• Brain Hyperactivity and Neural Changes</li> <li>• Psychological Consequences of Multitasking</li> <li>• Productivity and Task-Switching Costs</li> <li>• Long-term Effects on Brain Health</li> </ul>	<p>and hyperactivity: unveiling the hidden costs to brain health. <i>Annals of Medicine and Surgery</i>, 86(11), 6371-6373</p>
Week 9–10	Social Brain & Emotional Regulation	<ul style="list-style-type: none"> <li>• Brain Development and Learning</li> <li>• Role of Social and Emotional Processes</li> <li>• Brain Networks in Learning</li> <li>• Physiological Foundations of Learning</li> <li>• Learning Environments and Brain Development</li> </ul>	<ul style="list-style-type: none"> <li>• Emotional Behaviours, James Kalat</li> <li>• Immordino-Yang, M. H., Darling-Hammond, L., &amp; Krone, C. (2018). The brain basis for integrated social, emotional, and academic development: How emotions and social relationships drive learning. <i>Aspen Institute</i>.</li> </ul>
Week 11	Neuromyths & Critical Thinking	<ul style="list-style-type: none"> <li>• Introduction to Neuromyths and Their Origins</li> <li>• Common Neuromyths in Education and Movement</li> <li>• Misconceptions about Learning Styles and Intelligence</li> <li>• Myths Related to Physical Activity and Brain Function</li> </ul>	<ul style="list-style-type: none"> <li>• Romero-Naranjo, F. J. (2024). Neuromyths about movement and the brain: debunking misconceptions. <i>Journal of Physical Education and Sport</i>, 24(7), 1707-1715.</li> </ul>

		<ul style="list-style-type: none"> <li>Promoting Scientific Thinking and Combating Neuromyths</li> </ul>	
Week 12	Neuroplasticity & Brain Health	<ul style="list-style-type: none"> <li>Concept of Neuroplasticity</li> <li>Neuroplasticity Across the Lifespan</li> <li>Role of Environment and Learning</li> <li>Lifestyle Factors (Exercise, Diet, Sleep)</li> <li>Clinical Applications of Neuroplasticity</li> </ul>	<ul style="list-style-type: none"> <li>Shaffer, J. (2016). Neuroplasticity and clinical practice: Building brain power for health. <i>Frontiers in Psychology</i>, 7, 205377</li> </ul>
Week 13–14	Group Assignment	Introduction/ In-class assessment	
Week 15		Revision	

#### 4. Course Material

##### Main Reading:

- Garrett, B., & Hough, G. (2017). *Brain & behavior: An introduction to behavioral neuroscience*. Sage Publications.
- Hasan, M. K. (2024). Digital multitasking and hyperactivity: Unveiling the hidden costs to brain health. *Annals of Medicine and Surgery*, 86(11), 6371–6373.
- Immordino-Yang, M. H., Darling-Hammond, L., & Krone, C. (2018). *The brain basis for integrated social, emotional, and academic development: How emotions and social relationships drive learning*. Aspen Institute.
- Kalat, J. W. (2015). *Biological psychology*. Cengage Learning.
- Khan, M. A., & Al-Jahdali, H. (2023). The consequences of sleep deprivation on cognitive performance. *Neurosciences Journal*, 28(2), 91-99.

- Puri, S., Shaheen, M., & Grover, B. (2023). Nutrition and cognitive health: A life course approach. *Frontiers in Public Health, 11*, 1023907.
- Romero-Naranjo, F. J. (2024). Neuromyths about movement and the brain: Debunking misconceptions. *Journal of Physical Education and Sport, 24*(7), 1707–1715.
- Shaffer, J. (2016). Neuroplasticity and clinical practice: Building brain power for health. *Frontiers in Psychology, 7*, 205377.
- Tupper, D. E., & Cicerone, K. D. (Eds.). (2012). *The neuropsychology of everyday life: Assessment and basic competencies*. Springer.

Note :The referenced materials are available on Google Scholar and may be provided to students upon request.

## Academic Integrity

### Classroom Punctuality and Conduct

JSPC conducts all classes on a foundation of professionalism. It is expected that students will join the class link on time. Students joining the virtual class after a ten-minute window from the designated start time will be refused attendance. During classes, students must participate in classroom discussions, activities, and presentations. Students are also expected to be respectful when the instructor is teaching. During lectures and presentations, students are welcomed to share their thoughts. While sharing their thoughts, students are expected to be respectful and welcoming of others' perspectives in the class even if they disagree with the same. Students are also expected to be respectful when the instructor is teaching.

If a student wishes to reach out to the instructor after or before the class for any course-related queries, s/he can mail the instructor using the e-mail address provided at the start of the course guide.

### Participation and Attendance Policy

This course covers a lot of detailed information. There is no way to get a good grade without attending class. Students with less than 75% attendance will not pass this course.

### Phone/ Computer Usage

Students are encouraged to use the computer/phone only for activities associated with the class activities during the virtual classrooms. If a student is found using the phone/computer for any other activity, they may be asked to leave the classroom and be marked absent from the lecture. In addition, repeated violations may result in an academic discipline.

### Plagiarism

*Plagiarism is not acceptable!* Please refrain from copying and pasting paragraphs and sentences from your reading materials. This includes copying someone's words, structure, grammar, ideas, thoughts, and phrases and passing them as your own. Too many quotes from reading material and other published text are not acceptable! What is acceptable? Using one direct quote, which is not more than 40 words with the proper citation. Use in-text citation! It is a must! Present the content you read from your reading materials in your own words! Think and critically analyze the content! The source should always be acknowledged in your written material and presentation. All papers in this class will be checked electronically for plagiarism. You must use the APA style of formatting and referencing throughout the entire course. If in doubt, please do ask for assistance!

## **Safe Space Pledge**

Some parts of this course may discuss various issues that might result in distress for some students. Discussions and images in the class might also provoke strong emotional responses. To make sure that all students collectively benefit from the course, and do not feel troubled due to either the contents of the course, or the conduct of the discussions, it is mandatory for all us in the classroom to pledge to maintain respect towards our peers. This does not mean that you need to feel restrained about what you think and what you want to say. Conversely, this is about creating a safe space where everyone can speak and learn without inhibition and fear. This responsibility lies not only on students but also the instructor.

## **1. Disability Support and Accommodation Requirements**

The Disability Support Committee (DSC) has identified conditions that could hinder a student's overall well-being. These include physical and mobility related difficulties, visual impairment, hearing impairment, mental health conditions and intellectual/learning difficulties e.g., dyslexia and dyscalculia. Students with any known disability needing academic and other support are required to register with the Disability Support Committee (DSC) by following the procedure specified at <https://jgu.edu.in/disability-support-committee/>

Students who need support may register any time during the semester up until a month before the end semester exam begins. Those students who wish to continue receiving support from the previous semester, must re-register within the first month of a semester. Last minute registrations and support might not be possible as sufficient time is required to make the arrangements for support.

The DSC maintains strict confidentiality about the identity of the student and the nature of their disability and the same is requested from faculty members and staff as well. The DSC takes a strong stance against in-class and out-of-class references made about a student's disability without their consent and disrespectful comments referring to a student's disability.

All general queries are to be addressed to [disabilitysupportcommittee@jgu.edu.in](mailto:disabilitysupportcommittee@jgu.edu.in)

## **2. Mental Health Services**

If you are experiencing distress, be it personal, academic, social, or career-related, you can **reach out to Sukoon**, which provides support from **9:00 AM to 11:00 PM**.

**How to Avail Counselling Services?**

You can book a session through UMS or contact them directly at [\*\*frontdesk.sukoon@jgu.edu.in\*\*](mailto:frontdesk.sukoon@jgu.edu.in). You can also feel free to walk in in case of any concern.

*This schedule is preliminary and subject to change based on changing conditions.*