Subject Description Form

<table>
<tr><td>Subject Code</td><td>APSS 5063</td></tr>
<tr><td>Subject Title</td><td>Advanced Physiological Psychology</td></tr>
<tr><td>Credit Value</td><td>3</td></tr>
<tr><td>Level</td><td>5</td></tr>
<tr><td>Pre-requisite / Co-requisite / Exclusion</td><td>Nil</td></tr>
<tr><td>Assessment Methods</td><td>
<table>
<tr><th>100% Continuous Assessment</th><th>Individual Assessment</th><th>Group Assessment</th></tr>
<tr><td>1. Attendance & participation</td><td>10 %</td><td>--</td></tr>
<tr><td>2. Group project</td><td>--</td><td>25 %</td></tr>
<tr><td>3. Mid-term test</td><td>25 %</td><td>--</td></tr>
<tr><td>4. Final test</td><td>40 %</td><td>--</td></tr>
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<tr><td>Objectives</td><td>This subject aims to advance students' understanding of neuroanatomy, neurophysiology, developmental neurobiology, neuropharmacology, and functions of different components of the nervous systems. By the end of the subject, students should expect to have a detailed understanding of how the structure and function of the nervous system relate to human experience and behaviors.</td></tr>
<tr><td>Intended Learning Outcomes</td><td>Upon completion of the subject, students will be able to:

a. understand the current methods that neuroscientists use to study the biological underpinnings of human experience and behavior
b. understand brain-behavior relationships;
c. describe the neurobiological bases of human experience and behaviors;
d. describe the brain mechanisms involved in selected neurological and psychological disorders.</td></tr>
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Subject Synopsis / Indicative Syllabus

1. Methods and strategies of research in physiological psychology
2. Neuroanatomy: The structure and organization of the nervous system
3. Neurophysiology: Generation, transmission, and integration of neural signals
4. Neuropharmacology: The chemical bases of behavior
5. Development of the nervous system
6. Sensory processing: Vision
7. Regulation of internal states
8. Biological rhythms
9. Emotions, aggression, and stress in everyday life
10. Learning and memory
11. Attention and higher cognition

Teaching / Learning Methodology

The main teaching method is in-class lecturing with which material will be presented and explained to the students. Discussions and exploration of contemporary research in physiological psychology will also be facilitated throughout the course.

Methods in Alignment with Intended Learning Outcomes

Specific assessment methods / tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)			
		a	b	c	d
1. Attendance & participation	10%	√	√	√	√
2. Group Project	25%	√	√	√	√
3. Mid-term test	25%	√	√	√	
4. Final test	40%	√	√	√	√
Total	100%				

- The grade is calculated according to the percentage assigned;
- The completion and submission of all component assignments are required for passing the subject; and
- Students must pass all components so as to pass the subject.

Group project

Students are asked to form groups and present an empirical research paper on physiological psychology.

Mid-term test

The test will consist of multiple-choice questions only. It will cover approximately the first half of course material.

Final test

The test will consist of both multiple-choice, short-answer, and essay questions. It will cover all course material.

Student Study Effort Expected	Class contact:	**(39 Hrs)**
	▪ Lecture	39 Hrs.
	Other student study effort:	**(93 Hrs)**
	▪ Review of teaching materials	73 Hrs.
	▪ Preparation for assignments	20 Hrs.
	Total student study effort:	**132 Hrs.**

Reading List and References

Essential

Carlson, N. R. (2016). *Physiology of Behavior* (12th *ed.*). Upper Saddle River, NJ: Prentice Hall

Supplementary

Banich, M. T., & Compton, R. J. (2018). *Cognitive neuroscience.* Cambridge University Press.

Barrett, L. F. (2017). *How emotions are made: The secret life of the brain.* Houghton Mifflin Harcourt.

Costandi, M. (2016). *Neuroplasticity*. MIT Press.

Cozolino, L. (2017). *The neuroscience of psychotherapy: Healing the social brain.* WW Norton & Company.

Cummings, J. L., & Mega, M. S. (2003). *Neuropsychiatry and behavioral neuroscience.* Oxford University Press.

Freberg, L. (2018). *Discovering behavioral neuroscience: an introduction to biological psychology*. Cengage Learning.

Haier, R. J. (2016). *The neuroscience of intelligence*. Cambridge University Press.

Haines, D. E., & Mihailoff, G. A. (2017). *Fundamental Neuroscience for Basic and Clinical Applications E-Book.* Elsevier Health Sciences.

Kandel, E. R. (2007). *In search of memory: The emergence of a new science of mind*. WW Norton & Company.

Lambert, K. G. & Kinsley, C. H. (2010). *Clinical neuroscience: Psychopathology and the brain*. Oxford University Press.

Linden, D. (2016). *Neuroimaging and Neurophysiology in Psychiatry*. Oxford University Press.

Reading List and References	Murphy, R. A., & Honey, R. C. (Eds.). (2016). *The Wiley handbook on the cognitive neuroscience of learning*. John Wiley & Sons. Paradiso, M. A., Bear, M. F., & Connors, B. W. (2007). Neuroscience: exploring the brain. Hagerstwon, MD: Lippincott Williams & Wilkins. Ramachandran, V. S., Blakeslee, S., & Shah, N. (1998). *Phantoms in the brain: Probing the mysteries of the human mind*. New York: William Morrow. Sanes, D. H., Reh, T. A., & Harris, W. A. (2005). *Development of the nervous system*. Elsevier.

	Slotnick, S. D. (2017). *Cognitive neuroscience of memory*. Cambridge University Press. Zigmond, M. J., Coyle, J. T., & Rowland, L. P. (Eds.). (2014). *Neurobiology of brain disorders: Biological basis of neurological and psychiatric disorders*. Academic Press: Elsevier.