

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/Practice		
Invitation to Cognitive Science DSE 7 A	4	3	1	Nil	None	None

Course Objectives:

1. Introduce students to Cognitive science which deals with cognitive phenomena, like thinking, understanding, perceiving, attention etc. and the processes that underlie such phenomena.
2. Make students aware of the debates regarding the nature of the mind and how central language is to the human mind
3. Make students appreciate the debate between rival theories of Nativism and neuroconstructivism apart from introducing them to the issue of modularity of mind
4. Introduce students to the concepts involved in computational and connectionist theories of mind and embodied cognition as well

Learning Outcomes

Upon taking this course, students will be able to

1. Analyze the centrality of language for the human mind
2. Understand the debates between Nativism and its rival theories
3. Critically assess the arguments over the nature of the mind
4. Realize the exciting prospects of interdisciplinary research in cognitive science

UNIT 1: Cognition and Language (3 weeks, 9 hours)

1. Language and Cognitive Science
2. Chomsky's idea of the Language Faculty

Essential/Recommended Readings

Samuels, R., Margolis, E. and Stich, S. (2012). Introduction: Philosophy and cognitive science. In Eric Margolis, Richard Samuels, and Stephen P. Stich (eds.), *The Oxford handbook of philosophy of cognitive science*. Oxford: OUP, pp. 1-12.

Chomsky, Noam. (1986). "Knowledge of language as a focus of inquiry." Chapter 1 of *Knowledge of language*. New York: Praeger

UNIT 2: Nativism and alternatives

(4 weeks, 12 Hours)

1. Nativism
2. Neuroconstructivism

Essential/Recommended Readings

Samuels, R. (2020). Nativism. In S. Robins, J. Symons, & P. Calvo (Eds.), *The Routledge companion to philosophy of psychology* (2nd ed., pp. 322–335). essay, Routledge. (first edition published in 2009).

Westermann, G., Mareschal, D., Johnson, M. H., Sirois, S., Spratling, M. W., & Thomas, M. S. C. (2007). Neuroconstructivism. *Developmental Science*, 10(1), 75–83.

<https://doi.org/10.1111/j.1467-7687.2007.00567.x>

Smith L.B. and Thelen, E. (2003). Development as a dynamic system. *Trends in Cognitive Sciences*, Vol.7 No.8 <https://cogdev.sitehost.iu.edu/labwork/dynamicsystem.pdf>

UNIT 3: Computationalism, Connectionism, Embodiment : Buddhist Perspective

(4 weeks, 12 Hours)

1. Computing as a model of the mind
2. Connectionism
3. Embodied approaches to Mind

Essential/Recommended readings

McLaughlin, B. (2003). Computationalism, Connectionism, and the Philosophy of Mind. In L. Floridi (Ed.), *The Blackwell Guide to the Philosophy of Computing and Information* (pp. 135-51). Blackwell.

Kiverstein, Julian (2012). The Meaning of Embodiment. *Topics in Cognitive Science* 4 (4):740-758.

Coseru, C. (2017). "Are Reasons Causally Relevant for Action? Dharmakīrti and the Embodied Cognition Paradigm", in *Buddhist Philosophy: A Comparative Approach*, edited by Steven Emmanuel, 109-122. West Sussex: Wiley-Blackwell.

Unit 4: Modularity and its Discontents

(4 weeks, 12 hours)

1. Massive Modularity Hypothesis
2. How Modular is the Mind?

Carruthers, Peter (2006). The case for massively modular models of mind. In Robert J. Stainton (ed.), *Contemporary Debates in Cognitive Science*. Blackwell.

Prinz, Jesse J. (2006). Is the mind really modular? In Robert J. Stainton (ed.), *Contemporary Debates in Cognitive Science*. Blackwell. pp. 22--36.

Suggestive Readings

Bermúdez, José Luis (2010). *Cognitive Science : An Introduction to the Science of the Mind*. Cambridge University Press.

Mukherji, Nirmalangshu (2003). Is C_{HL} linguistically specific? *Philosophical Psychology* 16 (2):289 – 308.

Shea, Nicholas (2018). *Representation in Cognitive Science*. Oxford University Press.

Samuels, R. (2002). Nativism in Cognitive Science. *Mind & Language*, 17(3), 233–265.
<https://doi.org/10.1111/1468-0017.00197>

Karmiloff-Smith, A. (2009). Nativism versus neuroconstructivism: Rethinking the study of developmental disorders. *Developmental Psychology*, 45(1), 56–63.
<https://doi.org/10.1037/a0014506>

Collins, J. (2005). Nativism: In defense of a biological understanding. *Philosophical Psychology*, 18(2), 157–177. <https://doi.org/10.1080/09515080500169686>

Khalidi, M. A. (2007). Innate cognitive capacities. *Mind & Language*, 22, 92-115

Elman, J., Bates, E., Johnson, M., Karmiloff-Smith, A., Parisi, D., & Plunket, K. (1996). *Rethinking Innateness: A Connectionist Perspective on Development*. MIT Press.

Turing, A. M. (1950). Computing machinery and intelligence. *Mind* 49, 433-460.

Bechtel, W. (1987). Connectionism and the Philosophy of Mind: An Overview. *The Southern Journal of Philosophy*, 26(S1): 17–41. doi:10.1111/j.2041-6962.1988.tb00461.

Keywords

Cognition, Language, Poverty of Stimulus, Modularity, Innateness, Nativism, Neuroconstructivism, Embodied Cognition.

Credit Distribution, Eligibility and Pre-Requisite of the Course

Course title, Code & Semester	Credits	Credit distribution of the Course			Eligibility Criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical		
Critical Reading of Texts DSE 7-B	4	3	1	0	None	None

Course Objectives

1. This course is to familiarize the student with the Texts of Indian and Western Philosophy.
2. It discusses the background of the text and how to read in between the lines.