

Title

Human Creativity: Evolutionary Neuroaesthetics

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Program II Short Summary

Abstract

Why are humans creative? How do we perceive art, and what is its role in conjunction with science as a method of observing and discovering the world around us? How did creativity evolve? Art and science are the two oldest disciplines humans have used to interpret the world around us. Understanding the cognition behind creative expression and the way in which those expressions, in the form of fine arts, music, language, literature, and more, are used as framework to understand science, form identity, shape perceptions, and deliver information requires a uniquely multidisciplinary approach to learning. Human Creativity: Empirical and Evolutionary Neuroaesthetics is an academic program designed to synthesize an understanding of the unique forms of human expression and communication through lens of cognition and biology, anthropology, and philosophy. Focusing on auditory and visual aesthetics, the program is primarily interested in close examination of the biopsychosocial and neurological underpinnings that define the experience of creative human aesthetics, and by extension, how this kind of creativity shapes both the individual and society. The program seeks to explore this emerging academic intersection by integrating studies related to neuroscience and psychology, cultural and evolutionary anthropology, music, dance, visual and media studies, philosophy, information sciences, linguistics, and literature. A working and dynamic knowledge of the program is also built through integration of research, which serves as a platform for the program itself to be expressed, achieved by a union of the humanities, arts, and sciences as follows:

- **Module I: Foundations & Methods** which provides a fundamental understanding of the biological and social bases of behavior through gateway classes in neuroscience and psychology, music, cultural anthropology, art aesthetics, linguistics, and music that are further expanded in other coursework and serve to provide an understanding of conducting inquiry in the discipline through theory and methodology.
- **Module II: The Science of Art: Perceiving Reality** which examines, in-depth, the ways in which creative aesthetics are represented on the level of sensory perception and cognition, why these forms of expression evolved and are biologically interrelated. This module seeks to answer questions surrounding why and how humans are creative through language, music, art, and literature and how it shapes our own cognition, health, and identity.
- **Module III: The Art of Science: Interpreting Reality** which seeks to explore the manifestations of creativity through audiovisualities, media, discourse, and data. Complimentary to Module II, this module seeks to understand how art acts as a medium to express science, medicine, and technology. The focus of this module is to build on the mastery of technical science coursework in order to inquire on the nature and role of arts as a method to communicate, organize, interpret, and assign meaning to the world around us.

The modules explore neuroaesthetics – creative aspects of the senses: auditory, visual, kinesthetic sensation manifested as music, language, literature, dance, the fine arts. The evolutionary element of the program highlights both the cognitive (how we acquire and learn these aesthetics) and social (how these aesthetics shape our evolution and interactions). The program also seeks to address the innate and constructed aspects of aesthetic appreciation. As an emerging discipline, neuroaesthetics uses scientific inquiry to understand aesthetic forms, and is the umbrella discipline the program. Such specific inquiry must be facilitated by a curriculum with interdisciplinary scientific, artistic, and philosophical rigor.

Coursework

Module I – Foundations & Methods

1. *Neurosci 101/Psych 106* – The Biological Basis of Behavior
2. *Neurosci 212/Psych 257* – Introduction to Cognitive Neuroscience
3. *Linguist 201/Culanth 201* – Introduction to Linguistics
4. *Psych 201* – Statistical Methods in Psychology
5. *Phil/Bio 255* – Philosophy of Biology
6. *Phil 202/VMS 299* – Aesthetics: Philosophy of Art

Module II – The Science of Art: Perceiving Reality

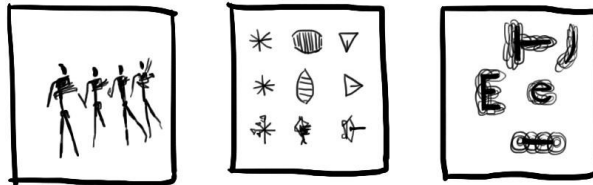
1. *Ling 123/Neurosci 123* – Language, Lesions, and Loss
➤ (in conjunction with 0.5 credit research practicum)
2. *Music 290/Neurosci 290* – Music and the Brain
3. *Eng 209/Ling 210* – The Mind and Language
4. *Evanth 336* – Dance Science: An Evolutionary Approach to Functional Anatomy
5. *VMS/Phil 522S/Neurosci 522S/Psych 687S* – Visual Perception and the Brain

Module III – The Art of Science: Interpreting Reality

1. *Music 120* – Music, Sound, and Style
2. *ISS/VMS 290* – Humanities Data Mining & Meaning
3. *VMS/Doc St/AMES/History/Lit 390* – Visual Narrative
4. *GSF/AMI/Lit 390* – Media and the Five Senses
5. *Romst 393* – Independent Study (capstone)
6. *Brain Soc 396* – Independent Study (capstone)

Departments: Neuroscience (5), Psychology (4), Philosophy (3), Visual and Media Studies (4), Linguistics (3), Music (2), Literature (2), Biology (1), Dance (1), Cultural Anthropology (1), Evolutionary Anthropology (1), Information Sciences and Studies (1), English (1), Romance Studies (1), Documentary Studies (1), Asian & Middle Eastern Studies (1), History (1) (Departments included total: 17)

Capstone Project Summary



Cognition and Evolution of Visual Aesthetics: Origins of **Written** Language and **Imagistic** forms of Expression

The degree capstone will focus on cognitive and evolutionary history of visual aesthetics, in both written language and imagistic forms. How are written language and images interconnected in human cognitive evolution? Did they evolve as by-products of our cognition, enhance fitness, or provide social order? What are some key points of controversy in paradigms of the evolution of pre-alphabetic visual representation, processing and literacy in different disciplinary fields, such as neuroscience, archeology, and evolutionary anthropology? This independent study will explore early the precursors in the evolution of written language and images as they emerged from parietal art and other preliterate forms of communication and symbolic representation, which serve as the point from which drawing and writing diverged. The capstone will culminate in an art gallery that uses interactive exhibits and landscape paintings to illuminate the research and explore aesthetics preferences and the origins of art.