

# NIAS COURSE OFFERINGS

## SECOND SEMESTER (FEBRUARY - APRIL) 2016

### (1) School of Humanities

**Course title:** Panpsychism: Philosophical and Scientific Perspectives

**Subject/ discipline:** Consciousness Studies

**Level of course:** Graduate (Basics in probability theory needed)

**Number of credits:** Three

**Type(lecture, seminar, guided reading, etc.):** Guided Reading, one term paper to be submitted at the end of the course for evaluation

**Name of instructor(s):** Dr. Nithin Nagaraj

**Brief description:** Panpsychism, or the thesis that mind/experience is fundamental and hence part/property of all reality is an old idea. Proponents of its various forms have included among others, Leibniz, Spinoza, Bertrand Russell and William James. In contemporary western philosophy, after being shown little interest for most of the 20<sup>th</sup> century, it has been gaining prominence, especially the arguments of Galen Strawson. Strawson, in arguing for his *realistic monism* wants to address two gaps simultaneously: 1. The place of experience in a physical world 2. The intrinsic/non-structural properties of physical entities. Interestingly, there have also been two scientific theories that have been proposed since the year 2000 that claim to be at least partly ‘panpsychist’ – the *Integrated Information Theory* (IIT) of Giulio Tononi and Christoph Koch, and the *Interface Theory of Perception* proposed by Donald Hoffman. In this course, we shall look at the philosophical arguments of panpsychism and its various versions, examine these two theories and their mathematical formulations, and understand if the two theories can provide a possible solution to the ‘hard problem’ of consciousness.

**Probable starting date and schedule/ timings:**

- **Start Date:** First week of February
- **Schedule:** Flexible. Suggested - one meeting/discussion session per week of three hours each (with one break in between)

Details on reading material for the course will be given in the class.

**Course title:** Cognitive Ethnography

**Subject/discipline:** Cognitive Science

**Level of course:** PG-Phd

**Number of credits:** Two

**Type: (lecture, seminar, guided reading, etc):** Lecture

**Name of instructor(s):** Gagan Deep Kaur

**Brief description:**

Cognitive Ethnography is a qualitative, research methodology that uncovers the ways cognitive processes are embedded in particular, situated practices of the individuals. Pioneered by Cognitive Anthropologist Edwin Hutchins in 1995, this approach takes cognition to be situated and distributed among people, artifacts, institutions, culture etc., and analyses step by step unfolding of the cognitive tasks undertaken by the participants in situated settings.

This is a lecture-based methodology course, of one month duration and is structured as follows:

1<sup>st</sup> week = Introduction to Ethnography and Cognitive Ethnography

2<sup>nd</sup> week = Cognitive Ethnography: Components

3<sup>rd</sup> week = Cognitive Ethnography: Methods

4<sup>th</sup> week = Issues and Challenges: Setting

5<sup>th</sup> week = Issues and Challenges: Data Handling

**Probable starting date and schedule/timings:** First Week of February, 2016

## (2) School of Natural & Engineering Sciences

**Course title:** Mathematical Methods

**Level of course:** 200

**Number of credits:** Three

**Type of paper (lecture, seminar, guided reading, etc.):** guided reading

**Name of instructor(s):** Dr. Janaki Balakrishnan

**Brief description:** Basic mathematical concepts will be introduced which are useful for interpretation of results in the context of real life situations. Topics covered (from various branches of mathematics) will include basic topics in linear algebra, matrices, refresher topics in complex numbers, curve fitting, linear and polynomial regression, maxima & minima, differential and integral calculus, ordinary differential equations and their applications. The course is intended for students without adequate exposure to mathematical methods, but who are desirous of learning these.

**Prerequisites, if any:** None

**Probable starting date and schedule/timings:** First Week of February, 2016.

**Course title:** Quantitative Techniques

**Subject/ discipline:** Statistics

**Level of course:** Middle Level

**Number of credits:** Three

**Type: (lecture, seminar, guided reading, etc):** Lecture, seminar

**Name of instructor(s):** Lalitha Sundaresan and Chidambaran Iyer

**Brief description:** The course will provide a conceptual understanding of Statistics. The emphasis will be on the understanding of the concepts, the tools available to carry out data analysis and draw inference and also cover bit modelling.

**Probable starting date and schedule/ timings:** February 3, 2016, 3 hour class per week.

There will be an Examination at the end of the course. The students will be evaluated based on their performance in the exam and a seminar presentation.

**Course title:** Behaviour, Personality, Physiology: Readings from the Mammalian Literature

**Subject/ discipline:** Animal Behaviour

**Level of course:** Advanced

**Number of credits:** Two

**Type: (lecture, seminar, guided reading, etc):** Guided reading

**Name of instructor(s):** Anindya Sinha

**Brief description:** This reading course is designed to provide a foundation for our understanding of the dynamic relationship between behaviour and the underlying physiology in mammalian systems. Some of the specific areas that would be covered in the course include comparative physiology, reproductive physiology, ecological physiology, stress biology, neurophysiology, endocrinology and animal behaviour. It is hoped that this course would lead students to comprehensively visualise the scope of behavioural physiology in understanding decision-making by mammals and the implications of our knowledge of such physiology for the management and conservation of specific mammalian populations.

**Probable starting date and schedule/timings:** First Week of February 2016

**Course title:** Science, Security, Society and Diplomacy

**Subject/ discipline:** Interdisciplinary

**Level of course:** PhD

**Number of credits:** Three

**Name of instructor(s):** D Suba Chandran

**Type: (lecture, seminar, guided reading, etc):** Lecture, Seminar, Paper presentation and Guest lecture

**Brief description:**

The course provides an introduction to science, technology, society and diplomacy aimed to address students with different background. The primary objective of the course is to enhance the understanding and implications of contemporary innovations and developments in the field of science and technology through various disciplines of social sciences and international relations, especially political science, sociology and international relations. The primary focus of the course will be on South Asia, with emphasis on India.

The course aims to create an understanding of how the State (in South Asia, especially India) is dealing with the contemporary challenges posed by science and technology, multiple social movements and developments. The course also will provide an outline of contemporary global developments and the international expectations in South Asia, especially in India in meeting the challenges.

The course also aims to create a pool of scholars, thereby increasing the human potential that would help the State and Society in understanding the modern day challenges posed by science and technology in South Asia.

The course will get specialists from the fields of Science and Technology, and officials (serving and retired) from various departments of the government to lecture on contemporary challenges facing them and ongoing initiatives to meet them.

**Probable starting date and schedule/timings:** First week of February, 2016.

### **(3) School of Social Sciences**

**Course title:** Understanding Conflict Resolution

**Subject/ discipline:** Conflict Resolution

**Number of credits:** One

**Name of instructor(s):** Dr. Anshuman Behera

**Type: (lecture, seminar, guided reading, etc):** Reading

**Brief description:**

This is primarily a reading based course. Literatures on latest developments on theories of conflict resolution will be provided to the students. The instructor is open for discussion with the students to understand the concepts and theoretical dimensions. No lectures will be delivered for this course.

**Probable starting date and schedule/timings:** First week of February, 2016.