

M.S./PH.D. PROGRAM IN CONSCIOUSNESS STUDIES

offered by the
Birla Institute of Technology & Science, Pilani, India

in collaboration with
Bhaktivedanta Institute, Mumbai, India

The Trends

Modern developments in neuroscience, artificial intelligence, psychology, quantum physics, cognitive science, and philosophy have catapulted the interdisciplinary field of *consciousness studies* into mainstream science. The vast growth of books, conferences, and journals dedicated to the topic of consciousness has shown that this new field is here to stay.

The Program

The multidisciplinary M.S. (Master of Science) / Ph.D. program offers a unique opportunity to specialize in the expanding field of *consciousness studies*. Some of the topics connected with consciousness studies are: qualia, neural correlates of consciousness, the binding problem, color perception, blindsight, phantom limbs, the nature of space and time, causality in individual quantum events, and quantum computation. Our program, entering its seventh year, features a strong curriculum to train students to critically learn the methods and resources of the various disciplines converging on consciousness, as well as to develop research initiative.

This post-graduate program is the first of its kind in the world and is a natural outcome of an active research program at the Institute to bring new methodological tools and conceptual clarifications to the field. At the center of its research program is a 'relational-viewpoint' developed through published work to solve the famed measurement problem in quantum theory. It also suggests exciting new research projects in allied fields of consciousness studies including artificial intelligence, cognitive science, neuroscience and biology.

The classes for the program are held at Bhaktivedanta Institute, Mumbai, and the degrees are awarded by BITS, Pilani.

The Movers

The **Birla Institute of Technology & Science, Pilani** (BITS) is one of India's leading technical universities, known for its academic excellence and modern educational format. It is also noted for launching innovative collaborative programs in new frontiers of science and technology with other institutions of requisite expertise and infrastructure.

The **Bhaktivedanta Institute** has played an important role in the development of the modern field of *consciousness studies* since its inception. In 1990 in San Francisco, the Institute organized the *First International Conference on the Study of Consciousness within Science*, featuring three Nobel Laureates. Since then, the Institute has conducted an ongoing colloquium on *Consciousness and Science* in the Bay Area. The list of participants in this colloquium is a veritable who-is-who in consciousness research.

Faculty

Core faculty includes:

Dr. Ravi Gomatam, *Bhaktivedanta Institute, Mumbai*
Dr. R.A. Sinari, *Bhaktivedanta Institute, Mumbai*
Dr. C.S. Unnikrishnan, *TIFR, Mumbai*
Dr. P.K. Joshi, *TIFR, Mumbai*
Dr. S. Nagarkatti M.D., *Somaiya Medical College, Mumbai*
G. Anderson M.S., *Bhaktivedanta Institute, Berkeley*
Dr. S.K. Rohida, *Pooja Hospital, Mumbai*

The institute enriches pedagogy and research by regularly inviting distinguished scientists from around the world.

Visiting faculty in the past have included:

Dr. James Newman, *Neurological Institute, Colorado*
Dr. Avshalom Elitzur, *Weizmann Institute of Science, Israel*
Dr. Bruce Mangan, *University of California, Berkeley*
Dr. R.K. Shyamsundar, *TIFR, Mumbai*
Dr. A. Delorme, *Univ. of San Diego*

The program will continue to offer international quality instruction in the years to come with a solid base of core faculty and visiting researchers drawn from internationally renowned institutions within India and abroad.

Library

The Library with its specialized and growing collection of books and journals in the field of consciousness studies is the first (and at present probably the only one) in India. The number of books and monographs has reached 3500 and feature many of the major titles in the field published from around the world, with new acquisitions arriving regularly. The Library also subscribes to the following journals and magazines dealing with consciousness studies and its allied fields:

- Consciousness and Cognition
- Journal of Consciousness Studies
- Behavioral and Brain Sciences
- Minds and Machines
- AI Magazine
- Philosophy of Science
- British Journal for the Philosophy of Science
- Physics Essays
- Advances in Mind-Body Medicine
- Scientific American
- Science
- Nature
- Foundations of Chemistry

Registered students will also be able to consult the holdings at other major libraries in Mumbai.

Input Requirements

M.S. (Master of Science) Program

A minimum of an Integrated first degree of BITS or equivalent such as bachelor's degree in engineering or medicine, or an M.Sc. / M.A. (with bachelors degree or equivalent in pure sciences) degree in any relevant field [such as physics, chemistry, biology, mathematics, psychology (with science courses) or philosophy from a recognized university.

Ph.D. Program

Successful completion of M.S. in Consciousness Studies is a minimum prerequisite for joining the Ph.D. program.

Program Duration

The Master of Science program consists of a total of four semesters (two years), with three semesters of course work and one semester for the dissertation.

Students who successfully complete the coursework may register for the doctoral program.

Fellowships

A limited number of fellowships are awarded to qualified candidates. Admitted students will receive free room/board in the hostel, fee waivers or fellowships or even a combination of all these, depending on his/her performance throughout the program.

Admissions

Students who are self-motivated and have a pioneering spirit to do cutting-edge research should apply. Admissions are made in August each year.

Limited hostel accommodation is available at Bhaktivedanta Institute premises on a first-come/first-serve basis.

Semesterwise Pattern of Courses

Given the multidisciplinary nature of the field, the courses are designed to acquaint the student with general principles as well as advanced research topics in different fields related to consciousness. The current semesterwise pattern of courses is as follows:

Course No.	Course Title	Units
First Semester		
CONS ZG511	Philosophy	4
CONS ZG656	Technical Writing	4
CONS ZG573	Guided Self Study-I	5
	Elective	4
Second Semester		
CONS ZG512	Philosophy – Advanced Topics	4
CONS ZG551	Artificial Intelligence	4
CONS ZG574	Guided Self Study-II	5
CONS ZG541	Biology and Consciousness	4
Third Semester		
CONS ZG542	Consciousness Studies – Advanced Topics	4
CONS ZG572	Matter in Bhagavata Sankhya	4
CONS ZG591	Guided Self Study-III	4
	Elective	4
Fourth Semester		
CONS ZG629T	Dissertation	20
Electives		
Course No.	Course Title	Units
CONS ZG532	Neuroscience and Consciousness	4
CONS ZG552	Foundations of Physics	4
CONS ZG571	Mind, Body, Medicine	4
CONS ZG582	Psychology and Consciousness	4

Students can select electives from the pool of other courses based on their basic degree and research interests, in consultation with their academic program advisor. A student is required to take four courses in each semester.

Program Fees

Students are required to pay the fees as per the rules of BITS, Pilani. The current fee structure is as follows:

Admission Fees: Rs. 15,000/-
Semester Fees: Rs. 30,000/-

Evaluation System

BITS follows a continuous system of internal evaluation and letter grades A, B, C, D, E carrying grade points 10, 8, 6, 4, 2 respectively are awarded for all courses other than Dissertation for which only non-letter grades namely EXCELLENT, GOOD, FAIR, POOR are awarded.

The Cumulative Grade Point Average (CGPA) on a 10-point scale will be used to describe the overall performance of a student in all courses for which LETTER GRADES are awarded.

$$CGPA = \frac{U_1 G_1 + U_2 G_2 + U_3 G_3 \dots}{U_1 + U_2 + U_3 \dots}$$

Where $U_1, U_2, U_3 \dots$ denote units of the course and $G_1, G_2, G_3 \dots$ denote grade points of the LETTER GRADES awarded in that course. Non-Letter grades do not go into computation of CGPA.

The academic requirements for the M.S. programme stipulate that a student obtains a minimum CGPA of 5.50 and has no E grade in any course.

The student will be issued a grade sheet at the end of each semester, and a Transcript and Provisional Certificate followed by the Final Degree Certificate at the end of the programme, subject to fulfilling the academic requirements of the programme.

Application Procedure

Application form may be downloaded from http://www.bvinst.edu/gradstudies/admissions/ap_procedures.htm.

Application form and MS program brochure as an e-mail attachment can also be got by sending an e-mail request to gradstudies@bvinst.edu. The form may also be collected in person from the address given below. Duly completed application form alongwith application processing fee of Rs. 1500/- as a demand draft drawn in favour of **Birla Institute of Technology & Science (BITS), Pilani** payable at State Bank of Bikaner & Jaipur, Pilani (Code: 1398) or UCO Bank, Vidya Vihar, Pilani (Code: 0150). In case of demand draft payable at any other bank, please add Rs. 100/- to the draft amount towards bank processing charges. For candidates outside India the application processing fee is US\$ 35 or equivalent.

Please check the demand draft / pay order and ensure that it is correct and complete in all aspects such as date, drawee name, bank manager signature, name and code of issuing bank branch and drawee bank branch, amount in words and figures.

For Indian citizens, the deadline for submission of the duly completed application forms along with the requisite processing fee, to the following address, is 5.00 PM on June 1, 2010. For nonIndian citizens, the deadline is April 15, 2010

Address all correspondence to:

Graduate Program Division
Bhaktivedanta Institute
Juhu Road, Juhu
Mumbai (Bombay) 400 049
Tel: +91 (22) 2620-0312
e-mail: gradstudies@bvinst.edu

Visit us on the web at www.bvinst.edu/gradstudies