

MASTER OF SCIENCE IN PHYSICS

ASSAM DON BOSCO UNIVERSITY

The Assam Don Bosco University, set up by the Don Bosco Society, was established as the first State University of Assam in the private sector by the Assam Don Bosco University Act. The Don Bosco Society has been rendering committed service in the field of education for over a century, its activities spread across 132 countries. Though the society has 15 universities worldwide, the Assam Don Bosco University is its first University in India.

VISION AND FOCUS

The Assam Don Bosco University has the vision of moulding intellectually competent, morally upright, socially committed and spiritually inspired persons at the service of India and the world of today and tomorrow, by imparting holistic and personalised education.

To achieve this vision, the University strives to ensure excellence in the teaching, learning and evaluation process, in research, consultancy and extension programmes, in continuous and on-going evaluation of every process in the system, in a holistic approach to education geared to an all-round development of dependable human beings.

Envisioned as a centre for culture, knowledge, research and intellectual ferment, this university focuses its teaching, research and consultancy on three core areas: technology sector, service sector and social sector. These areas have been chosen because they focus on cutting-edge technology at the service of contemporary fast developing knowledge-society and knowledge-economy, ensure the employability of our graduates and their capacity to become innovative entrepreneurs and equip them with the skills necessary to impact and transform their society.

MASTER OF SCIENCE IN PHYSICS

Academic brilliance, focus on research, international exposure and a nagging urge to mentor a class of eager students - these are the characteristics of faculty of outstanding University departments. Don Bosco University is privileged to have two such departments - the Departments of Physics, and the Department of Electronics and Communication Engineering – who have joined hands to offer a unique Masters Programme in Physics from the current academic year.

In the hands of renowned and experienced faculty, this programme covers virtually every theme in Physics - from elementary particles to the largest super clusters of galaxies. The curriculum includes all the advanced disciplines of Physics such as Quantum Mechanics, Solid State Physics, Atomic and Molecular Physics, Mathematical Physics and Nuclear Physics etc. This alone should enable a Physics Graduate of Don Bosco University to face with confidence all competitive examinations, like NET, SLET, GATE etc.

Over and above this thorough coverage of the typical topics in a Masters Programme in Physics, this Programme at Don Bosco University offers the possibility of specialising in two emerging areas in demand today - Nano-Sciences, or Electronics and Instrumentation.

PROGRAMME HIGHLIGHTS

- Exhaustive coverage of key topics in general Physics (Theory and Lab)
- In depth coverage of the specialisations offered
- Highly qualified, motivated and experienced faculty
- Up to date labs for the general experimental papers
- Sophisticated lab facilities for the special experimental papers
- A continuous evaluation system right through the semesters
- Field visits, assignments, and presentations
- A mandatory research project

COURSE STRUCTURE

| Semester | Type | Course Name | Credits |
|---------------|--------|--------------------------|---------|
| I | Theory | Classical Mechanics | 3 |
| | | Quantum Mechanics I | 3 |
| | | Condensed Matter Physics | 3 |
| | | Basic Electronics | 3 |
| | Lab | Physics Laboratory I | 4 |
| Total Credits | | | 16 |

| Semester | Type | Course Name | Credits |
|---------------|--------|-----------------------|---------|
| II | Theory | Quantum Mechanics II | 3 |
| | | Mathematical Physics | 3 |
| | | Electromagnetism | 3 |
| | | Basic Nano Sciences | 3 |
| | Lab | Physics Laboratory II | 4 |
| Total Credits | | | 16 |

| Semester | Type | Course Name | Credits |
|---------------|---|--|---------|
| III | Theory | Atomic and Molecular Physics | 3 |
| | | Nuclear Physics | 3 |
| | Specialisation: Electronics and Instrumentation | | |
| | Theory | Instrumentation | 3 |
| | | Electronic Circuits | |
| | Lab | Electronic Circuits and Instrumentation Lab | |
| | Specialisation: Nano Science | | |
| | Theory | Introduction to Nanomaterials | 3 |
| | | Synthesis & Characterization of Nano Materials | |
| | Lab | Nano Materials Synthesis Lab | 4 |
| | Research Project | Phase I | 3 |
| Total Credits | | | 18 |

| Semester | Type | Course Name | Credits |
|---------------|---|---|---------|
| IV | Theory | Computer Oriented Numerical Methods | 2 |
| | | Statistical Mechanics | 3 |
| | Lab | Computer Oriented Numerical Methods Lab | 2 |
| | Specialisation: Electronics and Instrumentation | | |
| | Theory | Digital Electronics and Microprocessors | 3 |
| | Lab | Digital Electronics and Microprocessors Lab | |
| | Specialisation: Nano Science | | |
| | Theory | Nano Physics | |
| | Lab | Characterisation of Nano Materials Lab | 4 |
| | Research Project | Phase II | 6 |
| Total Credits | | | 20 |

ELIGIBILITY CRITERIA

50 % in B.Sc. (with Physics as a subject).

Note: Preference will be given to students with honours in Physics.

FEE STRUCTURE

| Month & Year | Admission Fees | Caution Deposit | Annual Fees | Tuition Fees | Total |
|--------------|----------------|-----------------|-------------|--------------|--------|
| July 2014 | 10,000 | 10,000 | | 27,500 | 47,500 |
| January 2015 | | | 15,000 | 27,500 | 42,500 |
| July 2015 | | | 15,000 | 27,500 | 42,500 |
| January 2016 | | | | 27,500 | 27,500 |

APPLICATION PROCEDURE

1. Obtain the Application Kit

- Application Kit is available from Assam Don Bosco University, Azara, Guwahati
- You may also purchase the Application Kit online at our website
Cost of Prospectus : Rs. 600.00
- You may also download the application form from our website, fill it and send it to

Registrar

Assam Don Bosco University

Azara, Guwahati - 781 017

with a DD for Rs. 600.00 drawn in favour of "Assam Don Bosco University" payable at Guwahati. You will be sent the Application Number and Password for filling up the Application Form online.

- Visit the online application page of Assam Don Bosco University website (www.dbuniversity.ac.in/a). Enter the Application Number and Password that will be provided to you when purchasing the Application Kit. Follow the instructions given and enter the required information.
- Appear for the Personal Interview which will be conducted at Azara Campus of Assam Don Bosco University on 2nd August 2014
- Admission will be given on the basis of past academic record and performance at the Personal Interview.

IMPORTANT DATES

Last date of submission of forms : 1st August
Date of personal Interview : 2nd August
Start of admission for selected candidates : 4th August
Start of classes : 11th August

FOR FURTHER INFORMATION

Dr. Samrat Dey

Ph: +91 9854 655 097

Email: samrat.dey@dbuniversity.ac.in

www.dbuniversity.ac.in

Dr. Sunandan Baruah

Ph: +91 9435748947

Email: sunandan.baruah@dbuniversity.ac.in

www.dbuniversity.ac.in

ASSAM DON BOSCO UNIVERSITY

Airport Road, Azara, Guwahati - 791017

Phone : +91 9864333445 +91 9435545754

Fax : +91 361 2841949

Master of Science in PHYSICS

with specialization in
ELECTRONICS & INSTRUMENTATION
or
NANO-SCIENCES



**ASSAM
DON BOSCO
UNIVERSITY**