



BACHELOR OF SCIENCE

Course Guide

Programme Overview

The Bachelor of Science programme is a broad study programme that encapsulates a wide number of science based subjects that can be studied full-time in three years. The course aims to: provide students with opportunities to acquire knowledge, attitudes and skills in life sciences; introduce students to scientific method through a range of disciplines; provide graduates with advanced knowledge in one or more of the science disciplines; and to meet the needs of industry, business and government agencies.

Programme Name

Bachelor of Science

Programme Code

003

Course Code & Name

301 - B.Sc in Physics, Mathematics, Computer Science

302 - B.Sc in Physics, Mathematics, Electronics

Degree Awarded

Bachelor of Science

Duration of the Programme

3 years, 6 semesters

Total Credits

168

Eligibility

The minimum qualification required to apply is a pass in the 10+2 examination in Science (from PUC / ISC / CBSE or equivalent board with Physics, Chemistry and Mathematics as core subjects).

Medium of Instruction / Examination

English

Study Campus

School of Graduate Studies

J C Road, Bangalore – 560 027

Programme Timings

8.30 am – 4.00 pm (Mon – Fri) & 8.30 am – 2.30 pm (Sat)

Course Advisor

Ms. Asha Rajiv

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Programme Features

1. Students have a choice of graduating with a [Single degree](#) or a [Dual degree](#)
2. Students opting for [Dual degree programme](#) can enroll into [the 5th semester MSc programme \(Physics\)](#)
3. Students benefit from [interdisciplinary design](#) of the curriculum

Examinations & Assessments

1. Internal tests
2. Assignments
3. Seminar presentation
4. Class tests
5. Preparatory theory and Practical examination
6. End term theory and Practical examination

Value Added Courses

The objective of Jain University is to provide integrated coaching to students that adds value to students' profile and can make them more employable. These value added courses are designed as per current industry standards. We offer two certificate courses. Each course spreads over two semesters and the students are evaluated at the end of each semester. Evaluation is based on internal assessment, seminars and reports.

- Certificate programme in Business Entrepreneurship & Management
- Certificate programme in Logistics & Supply chain Management

Course Curriculum

Physics

Semester 1

Mechanics & Thermal Physics (Paper-I)

Semester 2

Properties of Matter, Waves & Sound & Space Physics (Paper-II)

Semester 3

Electricity & Magnetism (Paper-III)

Semester 4

Optics & Atomic Physics (Paper-IV)

Semester 5

Wave Mechanics, Bio-Physics & Solar Physics (Paper-V)

Electronics & Nuclear Physics (Paper-VI)

Semester 6

Material Science (Paper- VII)

Relativity, Astrophysics & Spectroscopy (Paper-VIII)

Mathematics

Semester 1

Matrices & Analytical Geometry in 3d (Paper-I)

Combinations, Differential Calculus I & Linear Programming (Paper-II)

Semester 2

Surfaces, Numerical analysis & Differential Calculus (Paper-III)

Integral Calculus, Graph Theory & Probability (Paper-IV)

Semester 3

Group Theory, Application of Integration (Paper-V)

Differential Equation & Sequences (Paper-VI)

Semester 4

Series & Laplace Transforms ((Paper-VII)

Fourier Series, Differential Calculus & Equations (Paper-VIII)

Semester 5

Line & Multiple Integral, Integral Theorems & Differential Calculus (Paper-IX)

Ring Theory & Partial Differential Equations (Paper-X)

Vector Differential Calculus, Geometry & Space Curves, Improper Integrals (Paper- XI)

Semester 6

Linear Algebra & Numerical Analysis (Paper-XII)

Complex Analysis & Fourier Transforms (Paper- XIII)

Particle Dynamics & Calculus of Variation (Paper- XIV)

Computer Science

Semester 1

Computer Architecture

Semester 2

Operating System

Semester 3

Software Engineering

Semester 4

Visual Programming

Semester 5

JAVA Programming (Paper V)

Internet Technology (Paper VI)

Semester 6:

Computer Networks (Paper VII)

Unix & System Software (Paper VIII)

Electronics**Semester 1**

Basic Electronics

Semester 2

Electronic Devices, Circuits & Linear ICS

Semester 3

Digital Electronics

Semester 4

Advanced Microprocessor: Intel8086

Semester 5

Communication I (Paper V)

8051 Microcontroller (Paper VI)

Semester 6

Communication II (Paper VII)

VDDI & Embedded Systems (Paper VIII)

Career Opportunities

Employment Settings

Research institutes
Defence Establishments
Educational Institutions
Aviation Industry
Pyrotechnics
Manufactures
Artificial Intelligence
Wireless Communication
VSLI/Embedded Systems
Robotics
Automobile Industry

Occupation

Hardware Designer
Logic Designer
Administrative Officer
Systems Analyst
System Administrator
Computer Programmer
Computer Scientist
Lecturer