

JAIN UNIVERSITY

Declared as Deemed-to-be University u/s 3 of the UGC Act, 1956



BACHELOR OF COMPUTER APPLICATIONS (SPECIALISATION) Programme Guide

www.jainuniversity.ac.in

Programme Overview

The main objective of this programme is to inculcate among the students, the technical as well as the theoretical knowledge about the computer and its various applications in different fields. This programme is designed in such a way that students can have a detailed knowledge of subjects as well as the knowledge of IT related applications. Throughout this programme the students will go through the IT scenario its scope, career and the essentials of the IT world. The students will be given chance to interact with the corporate and other intellectuals in the field so as to enable them to grasp theoretical as well as technical knowledge from them and enhance their personality, skill and knowledge. The students will make use of 24 hours internet facility and video conferencing to interact with the people in the IT field and share their knowledge and experience.

Programme Name

Bachelor of Computer Application (Specialisation)

Programme Code

004 A

Degree Awarded

Bachelor of Computer Application with Specialisation

Single Specialization:

- Visual Effects
- Business Data Analytics

Dual Specializations:

- Infrastructure Management and Information Security
- Information Security and Mobile Applications
- Mobile Applications and Cloud Technology
- Cloud Technology and Information Security

Duration of the Programme

3 years, 6 semesters

Total Credits

160 Credits

Eligibility

The minimum qualification required to be eligible to apply is a pass in the 10+2 examination or equivalent from any recognized Central or State Board with Mathematics / Business Mathematics as one of the core subjects. A programme recognized as equivalent thereto by the University.

Medium of Instruction / Examination

English

Study Campus

School of Graduate Studies
34, 1st Cross, J C Road
Bangalore

Programme Timings

08:15 am – 03:30 pm (Mon - Sat)

Programme Advisor

Prof. V Achutha
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Programme Features

Cloud Technology

The programme is focused on enabling innovative solutions for existing projects having new data-intensive computing content and storage.

The programme covers all aspects of storage and cloud technology:

- Basics of Networking, Operating Systems and Administration
- Fundamentals of Virtualization, Datacenter and Storage Technologies
- Labs in Cloud computing, virtualization

Information security management service

The programme is innovative as it covers a wide variety of technologies and disciplines, including cryptography, forensics, network design Mobile, Wireless and VOIP security, Ethical Hacking, database security and Information security governance and related legal and regulatory issues.

Infrastructure Management Services

The programme provides opportunity for the students to learn all aspects of IMS such as Networking, Operating Systems, Virtualizations and Datacenter technologies. In the final semester, the student can opt for an industry based internship, which helps the student to familiarize with the needs of the industry.

VFX

The emerging programme in animation enables the students to master the art of animation film making. The programme is tailor-made to hone the craft skills of the students and foster creative thinking and ideation. The programme is innovative in terms of industry-standard animation software, developing skills and specialist knowledge in 2D and 3D animation, 3D games, compositing, special effects, editing and sound design.

Curriculum (Semester 1 & 2 are common for all dual specializations)

Semester 1

Language

English

Fundamentals of mathematics

Computer fundamentals & Organization

Programming in c

Introduction to Linux

Learning Labs:

- C Programming
- Linux

Semester 2

Language

English

Operating System

Oops with C++

Data Structures using C

Mind Management & Human Values

Learning Labs:

- Oops with C++
- Data Structures

BCA (Infrastructure Management and Information Security)

Semester 3

Probability & Statistics

Software Engineering

RDBMS

Indian Constitution

Information Security Fundamentals

Basics of Server Operating System (Windows Server 2008)

Learning Labs:

- RDBMS
- Basics of Server Operating System (Windows Server 2008)

Semester 4

Environmental Science

Object Oriented Programming with Java

Ethical Hacking Fundamentals

Cryptography Fundamentals

Fundamentals of Datacenter

Designing Enterprise Networks (CCNA)

Learning Labs:

- Object Oriented Programming with Java
- Designing Enterprise Networks (CCNA) Lab

Semester 5

Database Security Fundamentals

Virtualization and Cloud Security

IT Governance, Risk, & Information Security Management

Linux Administration

Server Network Infrastructure (Windows Server 2008)

Principles of Virtualization

Learning Labs:

- Linux Administration
- Network Security

Semester 6

Mobile, Wireless and VOIP Security

Fundamentals of IT Infrastructure Library

Project:

- Software Project Report
- Viva - Voce
- Internal Assessment

BCA (Information Security and Mobile Applications)**Semester 3**

Probability & Statistics

Software Engineering

RDBMS

Indian Constitution

Information Security Fundamentals

Mobile Web and Application Development

Learning Labs:

- RDBMS
- Mobile Web and Application Development

Semester 4

Environmental Science

Object Oriented Programming with Java

Ethical Hacking Fundamentals

Cryptography Fundamentals

Basic Android

Mobile Ecosystem and Business Models

Learning Labs:

- Object Oriented Programming with Java
- Basic Android

Semester 5

Database Security Fundamentals

Virtualization and Cloud Security

IT Governance, Risk, & Information Security Management

Mobile Device and Network Architecture

Advanced Android

Mobile Value Added Services

Learning Labs:

- Advanced Android
- Network Security

Semester 6

Mobile, Wireless and VOIP Security

Mobile Testing

Project:

- Software Project Report
- Viva - Voce
- Internal Assessment

BCA (Mobile Applications and Cloud Technology)

Semester 3

Probability & Statistics

Software Engineering

RDBMS

Indian Constitution

Basics of Server Operating System (Windows Server 2008)

Mobile Web and Application Development

Learning Labs:

- RDBMS
- Mobile Web and Application Development

Semester 4

Environmental Science

Object Oriented Programming with Java

Introduction to Cloud Technology

Introduction to Windows Azure

Basic Android

Mobile Ecosystem and Business Models

Learning Labs:

- Object Oriented Programming with Java
- Basic Android

Semester 5

Principles of Virtualization

Cloud Web Services

Virtualization and Cloud Security

Mobile Device and Network Architecture

Advanced Android

Mobile Value Added Services

Learning Labs:

- Cloud Web Services
- Advanced Android

Semester 6

Private Cloud Architecture

Mobile Testing

Project:

- Software Project Report
- Viva - Voce
- Internal Assessment

BCA (Cloud Technology and Information Security)**Semester 3**

Probability & Statistics

Software Engineering

RDBMS

Indian Constitution

Information Security Fundamentals

Basics of Server Operating System (Windows Server 2008)

Learning Labs:

- RDBMS

Basics of Server Operating System (Windows Server 2008)

Semester 4

Environmental Science

Object Oriented Programming with Java

Introduction to Cloud Technology

Introduction to Windows Azure

Ethical Hacking Fundamentals

Cryptography Fundamentals

Learning Labs:

- Object Oriented Programming with Java
- Ethical Hacking Fundamentals

Semester 5

Principles of Virtualization

Cloud Web Services

Virtualization and Cloud Security

Database Security Fundamentals

Virtualization and Cloud Security

IT Governance, Risk, & Information Security Management

Learning Labs:

- Cloud Web Services
- Network Security

Semester 6

Private Cloud Architecture

Mobile, Wireless and VOIP Security

Project:

- Software Project Report
- Viva - Voce
- Internal Assessment

BCA (Business Data Analytics)**Semester 3**

Probability & Statistics

Software Engineering

RDBMS

Indian Constitution

Computer Networks

Web Technologies

Learning Labs:

- RDBMS
- Web Technologies

Semester 4

Environmental Science

Object Oriented Programming with Java

Business Domain Overview

Introduction to Data Mining

IT applications to Business Technology Overview

Creative Problem Solving

Learning Labs:

- Object Oriented Programming with Java
- Data Mining

Semester 5

Principals of Data Modeling

Introduction to Data Analytics

Fundamentals of Big Data Development

Introduction to Scripting Languages

Business Intelligence

Data Visualization

Learning Labs:

- Data Modeling
- BIG Data development

Semester 6

Advanced Data Analytics

Learning Labs:

Advanced Data Analytics

Data Visualization

Project:

- Software Project Report
- Viva - Voce
- Internal Assessment

BCA (VFX)**Semester 1**

Language

English

Fundamentals of mathematics

Computer fundamentals & Organization

Programming in c

Visual Design – I

Learning Labs:

- C Programming
- Digital Art

Semester 2

Language

English

Operating System

Visual Design – II

Data Structures using C

Mind Management & Human Values

Learning Labs:

- Digital Art – II
- Data Structures

Semester 3

Indian Constitution

History of VFX

Compositing Techniques – I

VFX Pre-Production

Lighting & Rendering

Learning Labs:

- 3D Lab
- Cinematography

Semester 4

Environmental Science

Photorealistic Lighting & Rendering - I

3D Dynamics

Fluid Simulation & Plugins

Rotoscopy & Painting

Learning Labs:

- Custom Effect Programming and Scripting – I
- Compositing Techniques - II

Semester 5

Motion Graphics

Matte Painting

Custom Effect Programming and Scripting – II

Photo Realistic Lighting & Rendering – II

Learning Labs:

- Studio Design & Project Management
- Stereoscopic Techniques

Semester 6

Project:

- Software Project Report
- Viva - Voce
- Internal Assessment

Assessment Criteria

- Internal tests
- Assignments
- Seminar presentation
- Class tests
- Preparatory theory and practical examination
- End term theory and practical examination

Career Opportunities

Students have a bright future in the IT field. They could take up jobs as programmers and grow to become project managers. A post-graduation in the relevant field is always preferred.

Visual Effects graduates are employed by companies in the post-production, broadcasting, film, games, design and media sectors. They perform work involving video editing, 3D modelling and lighting, rotoscoping, match moving and compositing.

Cloud computing, virtualization, information security, green data centres, mobile applications are fast reshaping the technology infrastructure landscape and provide a unique opportunity for graduates in India to build unique offerings and new business models.