JAIN UNIVERSITY

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

BACHELOR OF COMPUTER APPLICATIONAS (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
M +91 9448810235

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, rotoscroping, 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.