Indian Institute of Technology Patna

भारतीय प्रौद्योगिकी संस्थान पटना

Indian Institute of Technology, Patna

EXECUTIVE DEGREE PROGRAM

M.TECH
IN CLOUD COMPUTING

The sky's the limit with cloud computing

24 Months I Online I Immersive Sessions I Graduate from an IIT

LEARN FROM THE BEST MINDS IN THE COUNTRY - GET THE IIT PATNA ADVANTAGE

Established in 2008, IIT Patna is the newest and fastest-growing premier institution in India. IIT Patna operates ten departments - Computer Science & Engineering, Electrical Engineering, Mechanical Engineering, Chemical and Biochemical Engineering, Civil & Environmental Engineering, Materials Science & Engineering, Chemistry, Physics, Mathematics, and Humanities & Social Science departments.

The institute has developed modern facilities that are fully equipped with state-of-the-art facilities (equipment software and machines) that are routinely used to train and educate students.

The institution has published in high-quality and peer-reviewed national and international journals.

The faculty members of IIT Patna have a wide range of academic and research experience. They have been trained in the top-ranked institutes within the country and abroad.

Overview of IIT Patna	
Ranked 2nd	In Emerging Government Colleges in a Best College Ranking 2022 by India Today-MDRA
Ranked 9th	For placement records
Ranked 10th	Best Government Engineering College in the performance category overall
2500+ Alumni	Serving national and international institutions at leadership positions
100+	M.Tech Students
10+	Operating Departments
100+	Faculty Members

PROGRAM OVERVIEW

Cloud Computing has come of age after corporations like Amazon introduced the first of its kind of cloud services in 2006. There are signs that subscription to cloud services by the local companies will soon skyrocket. The M.Tech in Cloud Computing is a two-year postgraduate program which deals with services like servers, storage, networking, software and more. The M.Tech Cloud Computing curriculum is divided into four semesters of six months each. The basic course structure of M.Tech Cloud Computing includes Cloud Security, Web Application Developments, Data Centre Networking, Cloud Architectures, etc.

WHO CAN APPLY? - COURSE ELIGIBILITY

- The program is designed for working professionals with at least two years of relevant work experience prior to the course.
- An aspiring student should have a B.Tech / BE / MSc (Com Sc/IT) / MCA / ME / M.Tech graduation degree.
- At least a 60% in aggregate over the entire duration of the undergraduate program or a minimum CGPA or CPI of 6.0 on the scale of 0-10 with corresponding proportional requirements when the scales are other than 0-10 (for example, 4.8 on a scale of 0-8).

WHO IS THIS PROGRAM FOR?

- Industry freshers who have been working for a minimum period of two years and mid-level professionals aspiring to learn while earning, upskilling their career, and looking for a career progression in these streams.
- Professionals working in the following roles can apply for this program:

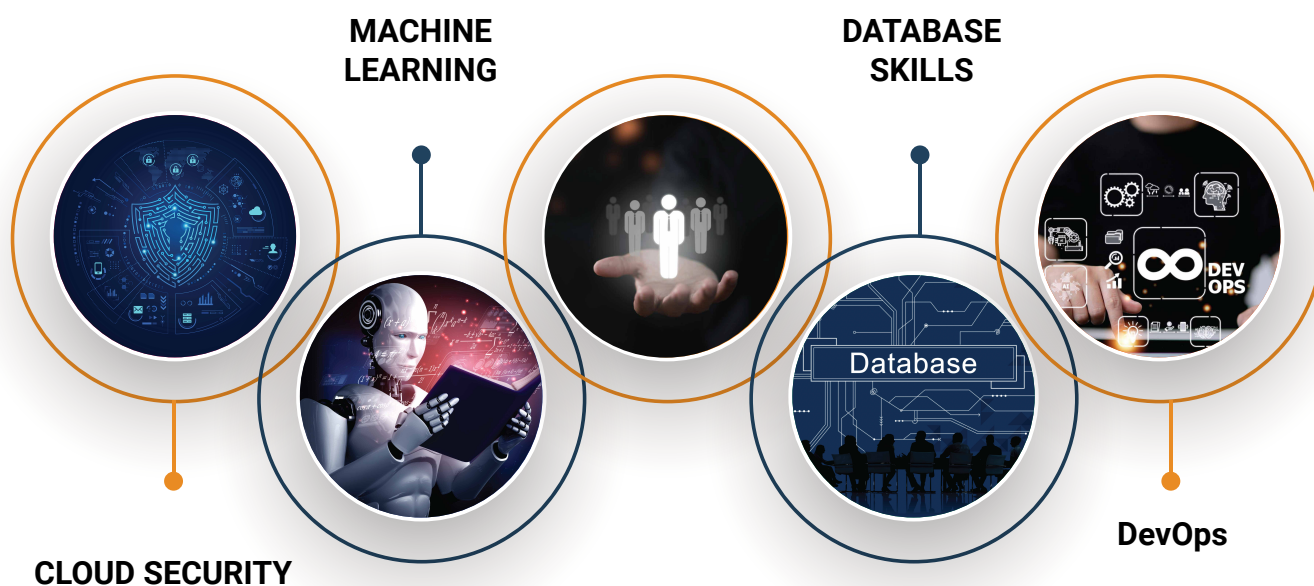|	
Cloud Administrators	Cloud Security Analysts
Cloud Software Engineers	Cloud Engineers
Cloud Network Engineers	Cloud Architects
Cloud Automation Engineers	Cloud Consultants

COURSE STRUCTURE

Program Duration	2 Years
Live online sessions	3 Days a week
Session frequency	2 to 4 hours engaging sessions
Immersive sessions at IIT Patna campus	15 days each year, 30 days in total
Model of delivery	Live sessions and flexible self learning

HANDS-ON EXPERIENCE WITH TOOLS

SKILLS GAINED THROUGH THE PROGRAM

MACHINE LEARNING

DATABASE SKILLS

CLOUD SECURITY

DevOps

Database

PROGRAM OBJECTIVES

UNDERSTAND	LEARN	ACQUIRE	IDENTIFY	ANALYSE
The need for cloud, virtualization, and security issues in cloud computing	The principles of data warehousing and data mining	Knowledge about the need and importance of machine learning	Complex routed and switched networks	Various advanced data structures and algorithms to solve real life problems

THE LEARNING PATHWAY

SEMESTER 1
- Data Warehouse & Mining- 4 Credits
- Virtualization & Cloud Computing- 4 Credits
- Advanced Design & Analysis of Algorithms- 4 Credits
- Elective 1- Choice
- Elective 2- Choice

SEMESTER 2
- Cloud Computing Architecture- 4 Credits
- Machine Learning- 4 Credits
- Parallel Algorithms- 4 Credits
- Cloud Security- 4 Credits
- Elective 3- Choice

SEMESTER 3	• Cloud Strategy Planning & Management- 3 Credits • Data-center Networking- 4 Credits • Web Application Development- 3 Credits • Elective 4- Choice • Minor Project- 8 Credits
SEMESTER 4	• Major Project - 20 credits

Core courses	38 credits
Electives	>= 12 credits
Guided projects	28 credits

CLOUD COMPUTING ELECTIVES

Distributed Systems
Big Data Analytics
Service-oriented Architecture & Security
Application Development Framework
Web Semantics
Network Security
Natural Language Processing
Scripting for System Administration
Mapreduce Design Patterns
Big-data
Data Center Visualization

CORE PROGRAM OUTCOMES

By the end of the program students will be able to:

- **Evaluate** the strategic value of Cloud Computing using IT Governance and Compliance.
- **Design** and program efficient algorithms related to Machine Learning, train models, conduct experiments, and deliver ML-based applications.
- **Analyze** critical case studies to derive the best practice model to apply when developing and deploying cloud based applications.
- **Examine** the components of cloud computing showing how business agility in an organization can be created.

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This is to certify that

Student Name

has successfully completed the required course of study approved by the Board of Education of IIT Patna, and is awarded the degree of

Executive M.TECH - Cloud Computing

_____
Chancellor

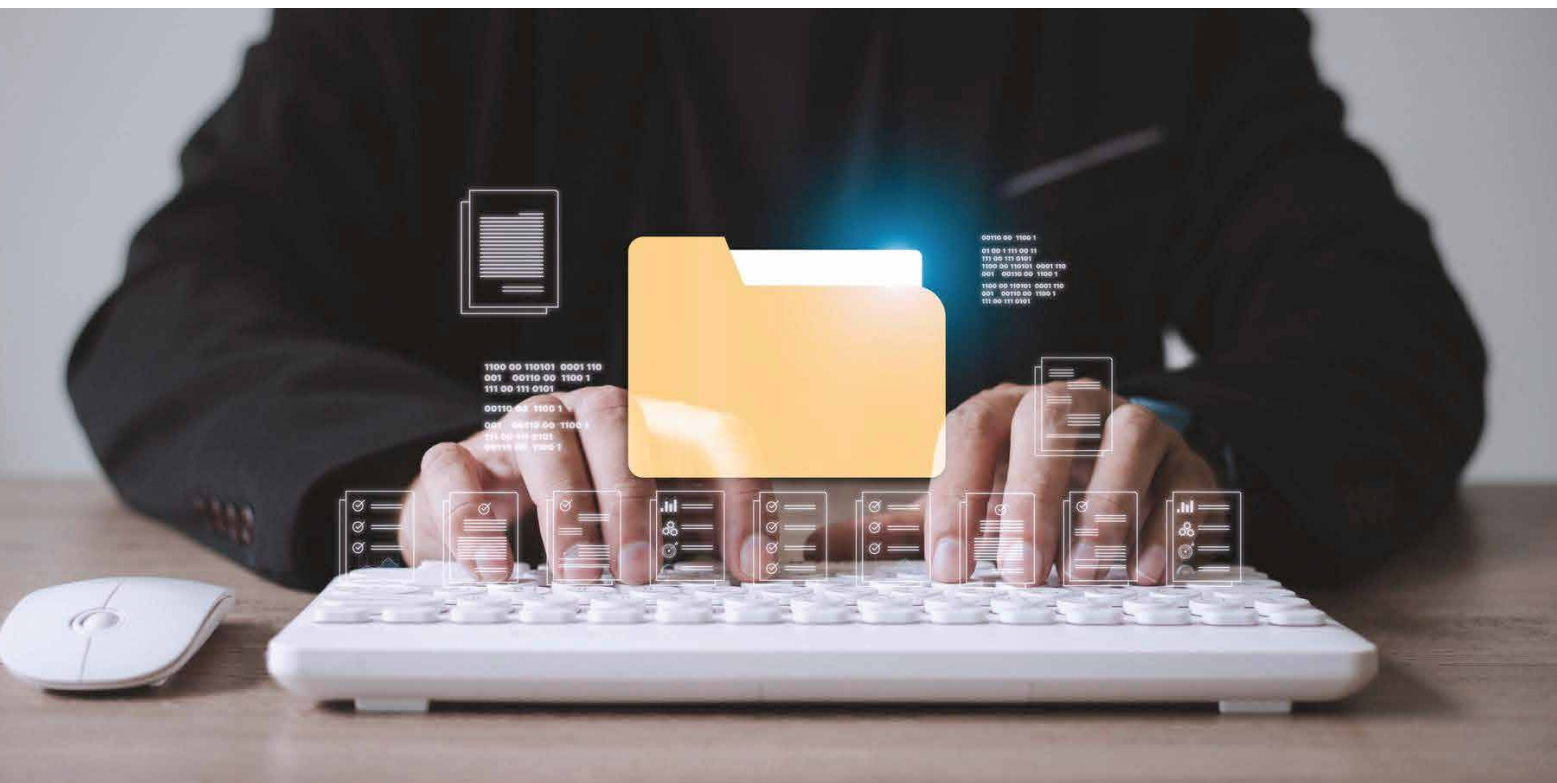# BECOME AN IIT PATNA ALUMNI - A GATEWAY OF OPPORTUNITIES

IDENTITY

- Have a lifelong IIT Patna email address

ACCESS

- To the e-library of the university
- To the on-campus sports and gym facilities
- To the IIT Patna guest house and concession on accommodation charges

OPPORTUNITY

- To network with global alumni community
- To attend alumni events

PROGRAM ADMISSION JOURNEY

STEP 1:
Fill up an online application form, upload the required documents and submit application

STEP 2:
Make the application payment

STEP 3:
Shortlisting based on work, and education profile

STEP 4:
If shortlisted, you will receive an offer letter from IIT Patna

STEP 5:
Pay admission confirmation fee within 7 days of receiving the offer letter

Note: The application fee once paid is not refundable. IIT Patna reserves the right to conduct the admission process. By submitting the application, the students agree that any decision regarding Admissions from IIT Patna will be final and binding.

FEES AND INSTALLMENT SCHEDULE

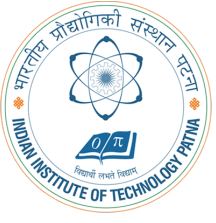| Fee details	Date	Amount
Application Fee	To be paid with the application on submission	₹5000/-
Admission Fee	To be completed after 7 days after receiving the offer to join the course	₹40000/-
Semester 1	To be paid 7 days before starting of the first semester	₹35000/- Mandatory Course Fee
		₹7000/- (Optional Campus Immersion Fee)
Semester 2	To be paid 7 days before starting of the 2nd semester	₹75000/- Mandatory Course Fee
		₹7000/-(Optional Campus Immersion Fee)
		₹15000/- (Optional Career Services Fee)
Semester 3	To be paid 7 days before starting of the 3rd semester	₹75000/- Mandatory Course Fee
		₹7000/- (Optional Campus Immersion Fee)
Semester 4	To be paid 7 days before starting of the 4th semester	₹75000/- Mandatory Course Fee
		₹7000/-(Optional Campus Immersion Fee)
		₹6000/- Institute Alumni Fee

PAYMENT DETAILS FOR STUDENTS

All students are requested to strictly adhere to the payment schedule deadlines mentioned in the above table.

INR 15,000 will be collected towards career services with Semester 2.

The alumni fee is INR 6,000. This is an optional fee. Students desirous of registering as an alumni may pay this fee to IIT Patna directly upon graduating from the program.
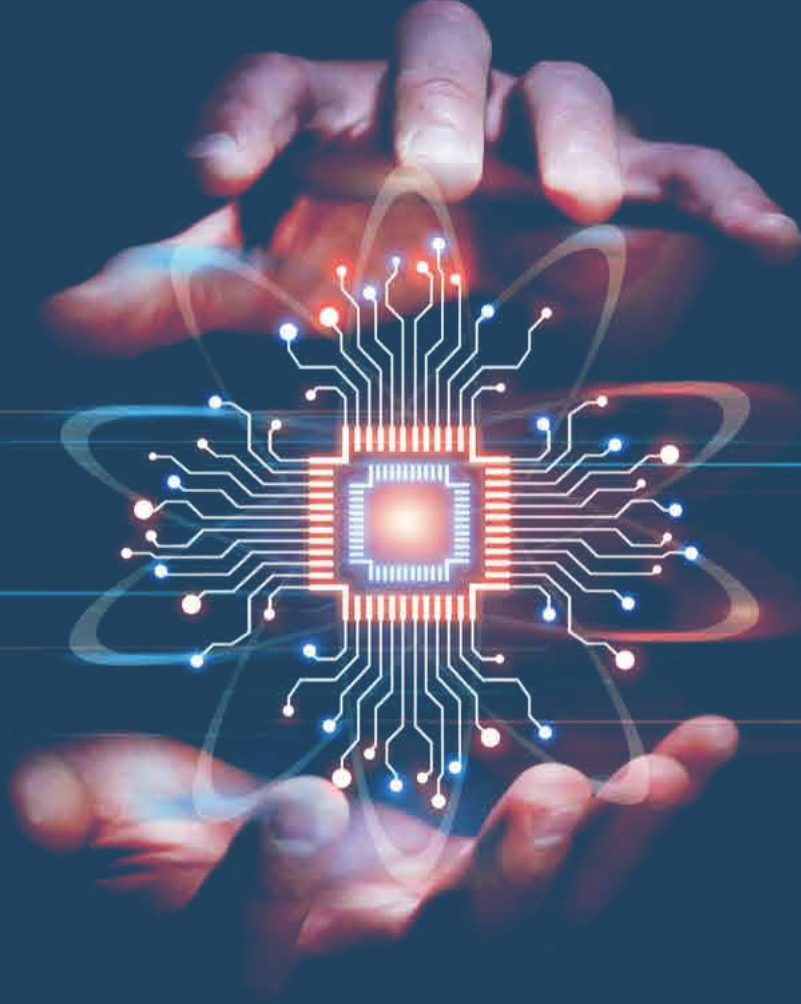
Some sessions with faculty and/or industry experts could be rescheduled at a different time, in case of exceptional circumstances.

IIT Patna does not charge any processing fee or service charge from the students for online payment. However, online payment gateway charges, over and above programme fees need to be borne by the students, as applicable. An alumni may pay this fee to IIT Patna directly upon graduating from the program.

Contact us
For application and any other information please
get in touch with us