



Indian Institute of Technology Patna  
(IIT Patna)

# M.Tech Cloud Computing

Type

Pg Program

Mode

Online

Duration

2 Years

Total fees

₹ 447,000

# Indian Institute of Technology Patna (IIT Patna)

Established in 2008, the Indian Institute of Technology Patna is an Institute of National Importance recognised for excellence in engineering, technology, management and interdisciplinary research. Located in Bihta, Bihar, the institute combines rigorous academics with advanced research facilities, innovation centres and strong industry engagement. Its learning ecosystem encourages analytical thinking, practical problem-solving, entrepreneurship and the development of solutions capable of creating meaningful economic and societal impact.

# M.Tech Cloud Computing

## Highlights

- ◆ Earn an M.Tech degree from IIT Patna through an online format designed for working professionals.
- ◆ Build expertise across cloud architecture, security, data-centre networking, DevOps and distributed systems.
- ◆ Gain exposure to platforms and tools including AWS, Microsoft Azure, Google App Engine, Hadoop, R and RStudio.
- ◆ Personalise the learning journey through electives in advanced cloud computing, edge computing, machine learning and web security.
- ◆ Apply learning through two major projects and an optional five-day campus immersion at IIT Patna.

## Learning outcomes

- ◆ Design and evaluate secure, scalable cloud architectures for complex computing environments.
- ◆ Apply cloud governance, compliance and security principles to organisational technology decisions.
- ◆ Develop cloud-based applications and workflows using virtualisation, distributed systems and DevOps practices.
- ◆ Use machine learning, data warehousing and analytics techniques within cloud computing environments.
- ◆ Analyse real-world case studies to identify effective cloud adoption, deployment and management practices.

## Eligibility Criteria

The candidates should have a minimum one year of working experience or should be currently employed.

An aspiring student should have a B.Tech/BE/MSc (Com Sc/IT or in related areas)/MCA/ME/M.Tech or any equivalent degree.

At least a 60% scored in the final marks of the eligible degree program or a minimum CGPA or CPI of 6.5 on the scale of 0-10 with corresponding proportional requirements when the scales are other than 0-10 (for example, 5.2 on a scale of 0-8).

In case of MCA /MSC passed with UG, the percentage score of MCA/MSC would be considered.

In case of a BE/BTech Engineering degree passed without PG specialization, the percentage score of the undergraduate degree would be considered. In case of an engineering graduate degree pass out with a post-graduation in the Engineering field of study, either of the UG or PG score qualification can be considered.

a. In case of the candidate belonging to scheduled caste (SC)/ Scheduled Tribe (ST)/ Persons with Disability (PwD) category, this is relaxed to 55% or equivalent CGPA/ CPI.

b. Marks will be relaxed by 2.5% or 0.5 CGPA or CPI against each additional year of experience.



## Curriculum Overview (continued)

### Semester I (5 subjects)

- ◆ Design and Analysis of Algorithms
  - ◆ Foundations of Computer Systems
  - ◆ Probability and Statistics
  - ◆ Technical Writing and Soft Skill/Capstone Project
  - ◆ DE-1(Elective 1)
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### Semester II (5 subjects)

- ◆ Artificial Intelligence
  - ◆ Numerical Linear Algebra and Optimization Techniques
  - ◆ DE-2(Elective 2)
  - ◆ DE-3(Elective 3)
  - ◆ IKS
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### Semester III (3 subjects)

- ◆ DE-4(Elective 4)
  - ◆ DE-5(Elective 5)
  - ◆ Project I
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### Semester IV (3 subjects)

- ◆ DE-6(Elective 6)
- ◆ DE-7(Elective 7)
- ◆ Project II



## Curriculum Overview (continued)

### Elective-I (3 subjects)

- ◆ Application development framework
  - ◆ Python for cloud computing
  - ◆ Advanced Cloud Computing
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### Elective-II, III (5 subjects)

- ◆ Cloud computing Architecture
  - ◆ Cloud Security
  - ◆ Advanced Edge Computing
  - ◆ Parallel Algorithms
  - ◆ Data Virtualization and Dashboards
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### Elective-IV, V (4 subjects)

- ◆ Cloud strategy planning and Management
  - ◆ Cloud Based DevOps
  - ◆ Distributed Systems
  - ◆ Machine learning for cloud computing
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### Elective-VI, VII (4 subjects)

- ◆ Meta Learning
- ◆ Service-oriented Architecture and Web Security
- ◆ Reinforcement Learning
- ◆ Data Warehousing

## Fee Structure

| Fee heads       | Year 1           | Year 2           | Total            |
|-----------------|------------------|------------------|------------------|
| Application Fee | ₹ 5,000          | —                | ₹ 5,000          |
| Exam Fee        | ₹ 11,000         | ₹ 11,000         | ₹ 22,000         |
| Admission Fee   | ₹ 210,000        | ₹ 210,000        | ₹ 420,000        |
| <b>Total</b>    | <b>₹ 226,000</b> | <b>₹ 221,000</b> | <b>₹ 447,000</b> |